

MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER

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BALTIMORE, FEBRUARY 24, 1910.

W. B. Powell, secretary of the Board
of Trade, Tampa, Fla., writing the
MANUFACTURERS' RECORD, says:

I am enclosing you a check for last month's
advertising. We are getting a great number
of queries from this ad., all coming from
high-class people.

JAMES CALVIN HEMPHILL.

Relinquishing his work with the
News and Courier of Charleston to be-
come editor of the *Times-Dispatch* of
Richmond, Major J. C. Hemphill has
the satisfaction of knowing that the
work that he has done for Charleston
and for South Carolina was laid upon
such deep and broad principles that his
removal to another field cannot inter-
rupt its beneficial continuance. It is
customary for that sort of thing to be
said about a man after he is dead, when
it can do him no good. But Major
Hemphill has been told all about it to
his face, and in a way that leaves him
no chance to doubt the facts. It is
well that the profound regret at his
leaving Charleston has not caused the
slightest diminishment of the judgment
there of his ability as a journalist, his
public spirit as a citizen and his worth
as a whole man. Richmond is fortunate
in gaining him.

ATLANTA.

Eighty per cent. of the total number
of registered voters in Atlanta partici-
pated in the election last week which
resulted in favor of an issue of \$3,000,-
000 of 4½ per cent. 30-year bonds for
municipal improvements. The interest
of the citizens in these improvements
shown in this vote is emphasized by the
fact that out of the total 8539 votes,

not more than 66 were opposed to the
issue. Of the bonds \$1,350,000 are to
be used for the extension of the sewer
system, involving the building of three
disposal plants, with septic tanks;
\$900,000 for a new reservoir, enlarge-
ment of filter plant, two coagulating
basins, additional clear-water basins
and piping; \$600,000 for modernizing
old school buildings and erecting eight
new ones; \$100,000 for extensions of
the Grady Hospital, and \$50,000 for
crematory plants. This bond issue is a
token of Atlanta's determination not
merely to bring itself up to date in every
particular, but also to provide against
the future. It is one of the best moves
for steady growth that the city has ever
made.

IRON-ORE VALUES.

We knew that the good people of
Texas appreciated the value of the nat-
ural resources of the State, but we did
not know until recently that many of
them are estimating the iron ores of
Texas at a much higher value than any
other iron ores in the world. The high-
est estimate put on the iron ores of the
Lake Superior region, with all the vast
development of that section, is \$1 a ton
in the ground; but, of course, not many
sales have been made at such a price
as that. In Alabama iron ores within
a few miles of coking coal could be had
at less than one-quarter of that amount,
but in recent discussions as to the value
of iron-ore property in Texas owned by
the State it is reported that officers and
members of the Texas Metal Trades As-
sociation put the value of the iron ore
owned by Texas as "worth at least \$3
per ton in the ground." What wild
jubilation there would be in the Lake
Superior region and in Alabama on the
part of the owners of iron-ore properties
if such figures could be secured! But Mr. Carnegie and Mr. Rockefeller
and others who sold out their Lake Su-
perior iron ores to the Steel Corporation
might be made seriously ill by the
contemplation of how much they had
lost by not holding on a few years
longer.

FOR GEORGIA.

Mr. L. P. Hillyer of Macon, Ga., sec-
retary of the Georgia Bankers' Asso-
ciation, has done his State valuable
service in urging every bank there to
bring to the personal attention of its
farming constituency a recent editorial
of the Macon *Telegraph* which points
to the prevailing high prices for meats
and other foodstuffs as the big oppor-
tunity for the South. The *Telegraph*
cited official figures showing the failure
of food production to keep pace with
the growth of population in the State,
and said:

All of these figures are amazing, but they
are collected from the most reliable sources.
They call to the farmer with irresistible elo-
quence and force. They cry aloud to them
to plant less cotton and more grain; to raise
more cattle and hogs, not as a patriotic
thing, but as a profit-making business. It is
the farmer's opportunity. His day has come

If he is wise enough to read the signs of the
times and take advantage of it.

Mr. Hillyer has sent to every bank
in Georgia a copy of the editorial, asking
that each local paper reprint the
editorial, and that each banker talk the
matter over with nearby farmers and
urge them to raise their own provisions
and make cotton a surplus crop. If
this is done, the conviction of Mr. Hillyer,
that action by farmers of the South
upon advice of the Macon *Telegraph*
will increase the wealth of the South
this year by many million dollars, will
be in a fair way toward justification.

THE STORY OF THE TEXAS PAN- HANDLE.

Some weeks ago there came to the
MANUFACTURERS' RECORD a story about
the wonderful development of the Pan-
handle region of Texas. Its length was
against it, for it far exceeded the limits
of the space which we can give to spec-
cial stories about any portion of the
South. A hasty glance at the first few
pages, however, developed that it was
such a ringing, swinging, sweeping
story, telling of the creation of an em-
pire, the redemption of a great area ex-
ceeding in extent some of our smaller
States, that the full reading seemed to
justify its publication, notwithstanding
its very great length, and so it will be
found in this week's issue. With the
illustrations it covers seven pages, but
no one need be deterred by reason of
that fact from reading the first page.
The man who reads one page will be
sure to read all the others. It is as in-
teresting as a novel. It is a graphic
story that brings before the mind a pic-
ture of the mighty work under way in
the Southwest. It tells, too, how a section
of the South long regarded as prac-
tically valueless, and afterwards re-
garded as fit only for grazing, has sud-
denly become the center of agricultural
activity, of town building, of railroad
construction, and of everything that
makes for modern development. The
story of the 3,500,000-acre ranch given
by the State for the building of a great
capitol, of how the utilization of this
principal, first for raising cattle and
then for raising corn and wheat and a
great range of other agricultural prod-
ucts, and then for building cities and
towns, is but another illustration of the
ever-increasing utilization of the re-
sources of the South. The land that
yesterday was regarded as worthless is
today of great value. This was true in
the rice regions of Louisiana, where 50-
cent land, by drainage and the develop-
ment of the rice industry, came to be
worth \$75 to \$100 an acre. It is true
of the great stretch of Gulf Coast land
in Texas, where 50 cents an acre was
regarded as wild extravagance a few
years ago for land which today, in many
cases, yields an annual profit of over
\$50 an acre. It is true of land in many
parts of Florida, as in other regions.
The South is as yet the undiscovered
country. So great are its resources, so
limitless are the as yet unutilized pos-
sibilities in lands, in minerals, in water-

powers, that any story which, like this
from Texas, tells of how man's inge-
nuity is turning the waste region, the
desert land, into a garden spot, and any
story which tells of mineral and water-
power development, is a story of vital
human interest.

THE CALL FOR LIVESTOCK IN THE SOUTH.

In the fifty years between 1860 and
1910 the population of the country in-
creased from 31,500,000 to 89,000,000,
and the population of the South from
11,000,000 to 28,000,000. In the same
period, according to official figures and
allowing for variation in census sched-
ules, the raising of livestock used for
food has not kept pace with the growth
of population in the whole country, and
in the South has actually declined in the
case of sheep and swine. The following
table enables one to compare the facts
as to individual Southern States and as
to the whole South and the rest of the
country:

Neat Cattle.

(Not including milch cows.)

	1860.	1910.
Alabama	542,859	528,000
Arkansas	396,796	600,000
Florida	295,086	712,000
Georgia	706,194	673,000
Kentucky	566,844	695,000
Louisiana	387,145	480,000
Maryland	153,778	138,000
Mississippi	522,263	577,000
North Carolina	495,187	443,000
South Carolina	342,838	227,000
Tennessee	515,218	565,000
Texas	2,934,228	7,131,000
Virginia	713,754	578,000
West Virginia	.....	511,000
Total	8,542,190	13,824,000
United States	17,034,284	47,279,000

Sheep.

	1860.	1910.
Alabama	370,156	178,000
Arkansas	202,753	233,000
Florida	20,158	98,000
Georgia	512,618	245,000
Kentucky	938,990	1,060,000
Louisiana	181,253	178,000
Maryland	157,765	163,000
Mississippi	352,632	171,000
North Carolina	546,749	215,000
South Carolina	234,509	56,000
Tennessee	774,317	347,000
Texas	51,363	1,960,000
Virginia	1,043,269	522,000
West Virginia	.....	709,000
Total	6,094,532	6,084,000
United States	22,471,275	57,216,000

Swine.

	1860.	1910.
Alabama	1,748,321	1,176,000
Arkansas	1,171,639	978,000
Florida	271,742	456,000
Georgia	2,036,116	1,647,000
Kentucky	2,339,595	989,000
Louisiana	634,525	744,000
Maryland	387,756	273,000
Mississippi	1,532,768	1,290,000
North Carolina	1,883,214	1,356,000
South Carolina	965,779	699,000
Tennessee	2,347,321	1,264,000
Texas	1,371,532	3,205,000
Virginia	1,599,919	774,000
West Virginia	.....	338,000
Total	18,281,218	15,180,000
United States	33,512,867	47,782,000

These figures show that there were
fewer neat cattle in 1910 than in 1860
in Alabama, Georgia, Maryland, North
Carolina and South Carolina, and that
the increase for the whole South is
largely accounted for by the increase
of 4,196,000 in Texas, 417,000 in Florida,
375,000 in the two States embraced in
Virginia in 1860 and 203,000 in Arkans-

In the case of sheep, the South now
has 10,000 fewer than in 1860, Alabama,
Georgia, Louisiana, Mississippi, North
Carolina, South Carolina and Tennes-

see showing the most marked decreases, their aggregate being too great to overcome the increase of 1,165,000 in Texas, added to the slight increases in Florida, Kentucky, Maryland and old Virginia.

Swine made even a worse showing than sheep. The increase for the whole country in the fifty-year period was only at the rate of 42 per cent., against an increase of 197 per cent. in the population, but against an increase of 172 per cent. in the population of the South the number of swine decreased by more than 3,000,000, in the face of an increase of 1,833,000 in Texas, of 184,000 in Florida, of 109,000 in Louisiana and of 27,000 in Alabama, the only four States of the fourteen Southern States showing an increase.

There is an explanation for this notable and regrettable showing made by the South in this particular. In 1860 the South had 50 per cent. of the neat cattle of the country, 27 per cent. of the sheep, and 54 per cent. of the swine, though its population was only about 35 per cent. of the total. In 1910, with about 32 per cent. of the total population of the country, the South has less than 30 per cent. of the cattle, less than 11 per cent. of the sheep and less than 32 per cent. of the swine. Why?

The year 1865 found the South, or at least large sections of it, practically depleted of its livestock to be used as the basis for future supplies. The South's pockets were empty of money, and the only means of obtaining sufficient food for immediate necessities was to go into debt for the purpose of raising a crop of cotton. At the same time a great part of the agricultural machinery of the South, its negro population, was deprived of its directive brain power and, as a whole, has not yet gotten back to the efficiency that was its in 1860. This unfortunate situation fastened the all-cotton habit upon thousands of Southern farmers, and from that habit it was difficult for the second generation to escape. Furthermore, about the time of the return of the inclination toward diversified farming, toward depending more upon home-raised foodstuffs and feedstuffs than upon the West and other parts of the country for such supplies, the South began to revive its industrial instincts, suddenly checked by the war, and the population of the South was not large enough to meet at the same time the demands of agriculture and the demands of manufacturing. There was just so much human energy, and the part directed into one channel was diverted from another.

There is a better balance now developing which should be reached with accessions to the South's population through immigration of the thrifty and the competent. But even before that balance can be established the South can create a better balance in its agriculture, so that cotton, tobacco, rice, fruit and truck shall not monopolize the energies of individual farmers, and that more acreage and labor be given to raising more livestock not merely for the sake of the meat and the by-products in the shape of wool, hides, bones, etc., but also as a means of increasing the fertility of the Southern soil. Prevailing high prices for meats ought to spur the South to raising more livestock.

WHY SOUTHERN RAILROADS SHOULD ADVERTISE.

1. Because advertising pays a railroad, as it does an individual or business house.

2. Because there confronts the railroads of the South the inspiring and convincing example of the railroads of

the West, which have populated a desert by their publicity work.

3. Because Southern railroads are in a section (and a part of it) that will back up by its natural possessions all that may be claimed for it.

4. Because the interest aroused all over the world in the South's possibilities as a place for factories, farms and homes should right now be clinched by aggressive methods.

5. Because the railroads are first and continuously the beneficiaries of every movement looking toward the development of the section in which they are located.

LOUISIANA WELL ADVERTISED.

Referring to recent articles in the MANUFACTURERS' RECORD bearing upon plans for comprehensive land-reclamation work in Louisiana, Hon. Joseph E. Ransdell, member of Congress from Louisiana, writes:

I am delighted to know that a strong Chicago firm has taken \$1,500,000 of drainage bonds for redeeming Louisiana wet lands. You have been working at this matter consistently for a long while and have done much to bring it intelligently before the country. On behalf of Louisiana, I extend you sincere thanks for your efforts.

Bearing upon the same articles, Hon. J. T. Watkins, another member of Congress from Louisiana, writes:

This is a subject in which the people of our entire State are greatly interested, as it will add millions to our assets.

While I live in the northern part of the State of Louisiana, which is hundreds of feet above sea-level, there are vast areas of land in that section which could be reclaimed by drainage, and I trust that the attention of capitalists may be called to the desirability of investigating that section of the State while they are contemplating spending millions of dollars in drainage in Louisiana.

There are no more fertile lands to be found anywhere than in the alluvial bottoms of the Red, Sabine, Dorcheat, Dugdemona, Saline, Bodcau, Cane and other rivers in North Louisiana.

Immense quantities of these lands were donated to the State of Louisiana by the National Government under the swamp and overflowed-land act of Congress and disposed of by the State, and are now in the hands of individuals who would be glad to have them drained if they could afford to do so.

The formation of drainage districts and working on the co-operative plan appears to be the only practical way in which this work can be effectively done.

A lecturer from the Government Department of Agriculture was furnished me last fall to make addresses on the subject of drainage in the Fourth Congressional District, and the people became very much interested.

If some of these lands which now can be bought for \$5 an acre are reclaimed by drainage, they could be sold for \$50 per acre. Much of the land can be bought for less, but its value would not be so great after it is redeemed by drainage. The benefits from drainage are great.

All kinds of agricultural crops can be grown in that section of the State, but cotton is the staple crop. The people in that section welcome those who seek to make investments. They are intelligent, enterprising, moral, sociable and in every way agreeable companions for those of like qualities who make their homes in their midst.

The MANUFACTURERS' RECORD is doing a great work for the South. There is no other one instrumentality which has so much benefited the South as it has. We accord it full praise, and look forward for greater results in the future even than its phenomenal recent development.

Neither of these letters overestimates the benefits that are to come to Louisiana with the reclamation of its wet lands. There are about 7,000,000 acres of these lands reclaimable by simple methods and at an almost insignificant cost in comparison with the great increase in the value of the lands as wealth producers as soon as light and air shall be permitted, through drainage, to get into the soil. As Congressman Watkins writes, the reclamation

of the alluvial lands will add millions of dollars to the assets of Louisiana. It will do much more. The reclaimed lands are to be occupied by thrifty agriculturists, additions to the population of the State that may hardly be estimated in dollars, but producing from the rich soil millions of dollars' worth annually. But Louisiana is not the only State which has a great potentiality in its wet or marsh lands. Texas, Arkansas, Tennessee, Florida, Mississippi and Carolina have already done much in reclaiming wet lands, but only a small beginning has been made. The utilization of these lands is comparable in importance to the development of the manufacturing interests of the South.

Congressman Ransdell appreciates the significance of the immediate interests of the strong Chicago firm in the drainage project for Louisiana. That very interest is one of the greatest advertisements that Louisiana has ever had, and it did not cost the people of Louisiana a pittance. It directs the attention of investors to the great potentialities of the State from the farming standpoint, and it is an easy stage from that to a realization of the opportunities there for manufacturing industries of many kinds and for general trade and commerce.

Kind words of these two representative Louisianians, with reference in the one case to the work for the South as a whole done by the MANUFACTURERS' RECORD and in the other to the part played by it in bringing to the attention of the country the possibilities in drainage, are deeply appreciated by us. They are messages of encouragement to us to continue with greater energy than ever before the general work for the development of the South as a whole and in the interest of special undertakings, such as the drainage of wet lands, that we have been doing for a generation.

PRACTICAL WORK BY BUSINESS BODIES.

What practical work may be done for a community by a live commercial organization is suggested by the policy of the Board of Trade of Tampa, Fla., in issuing daily for the benefit of its members and other persons interested a real estate and rental bulletin briefly summarizing inquiries relative to investments in the vicinity. Two recent bulletins, representing inquiries that had arrived within five days, contained the names of 24 persons living in California, Colorado, Florida, Illinois, Indiana, Iowa, Kentucky, Michigan, Missouri, Ohio, Ontario, Oregon, Pennsylvania, Tennessee and Virginia. They were either homeseekers or prospective investors, and their inquiries were about divers opportunities. To all such inquirers the Board of Trade sends a prompt answer, and whatever literature there is bearing upon the inquiries. In addition, the readers of the bulletin are told this:

Please write to them immediately, sending them your literature, price-list of properties, and then stand behind them with follow-up letters. Show inquirers that Tampa is a live and progressive city.

Follow-up is the essential in all such advertising. The mere statement that a community or a section has certain advantages for the homeseeker and investor is not sufficient in itself. It is likely to attract attention and incite inquiries. That is not enough. Attention must be fixed permanently, and inquiries must be answered in such a businesslike way that business will follow.

Though not needed at Tampa, where

the Board of Trade has a hearty support, there is another kind of follow-up which is not infrequently lost sight of by communities seeking to advance their interests through the organization of a board of trade, a chamber of commerce or other business body. They must not stop at the election of officers or directors. They must not be content with sending checks in payment of annual dues. Members of such bodies must adopt and persist in the follow-up policy. They must follow up their financial support with their moral support, shown in personal participation in every movement for the good of the country inaugurated by the officials of the business body. With such support competent and zealous officials will never be disturbed by the question of ways and means for making the business bodies the dynamos of progress.

LACK OF INFORMATION ON THE PART OF RAILROAD AGENTS.

A Northern railroad official tells the MANUFACTURERS' RECORD that while on a recent trip through the South he and a number of other passengers asked a great many questions about some of the small towns at which they stopped—population, chief industry, etc.—but found that none of the railroad men or station agents seemed to have any definite knowledge of the facts desired.

His inability to get such information as every railroad man, and especially every station agent, ought to have at his tongue's end in regard to towns along the line of road, as well as the broad facts about Southern progress, is not surprising to anyone who has made a study of the same situation. It is very astonishing that the officials of Southern roads do not undertake to make an earnest, vigorous campaign to get their clerks and station agents more thoroughly acquainted with the important facts about their individual communities and about the South. Station agents come in closer touch with the traveling public than the leading officials, and though the officials themselves may be fairly well posted (unfortunately a great many of them are not), their knowledge is of comparatively little value to the traveling public if the station agents are as poorly informed about the South or about their own community as the official of the Northern road, to whom we have referred, found those with whom he came in contact.

The Delaware & Hudson Co., and possibly a great many other companies in the North and West, publishes a vest-pocket booklet giving in alphabetical order a list of all the stations on its line, and a few condensed facts of each station, showing its population, altitude, number of banks, number of daily papers and its principal industry, whether industrial or agricultural. These booklets are to be found on every train and at every station. They are intended for the use of the public, so that every traveler is able at any moment to get a few specific facts about the villages and towns through which he is passing.

BEST FIELD FOR BUSINESS.

A. T. Enlow, sales manager of the Stark Rolling Mill Co. of Canton, O., writing to the MANUFACTURERS' RECORD in regard to recent information published about the South, says:

We are greatly interested in the South, believing that the balance of the country has been living at too fast a clip, and that just now the South is going to furnish one of the best available fields to those who are prepared to take advantage of same.

Mr. Enlow is correct. The South will

furnish one of the best available fields in the world for activity in business of all kinds. Already immigration is turning into the South as never before, and with the southward trend of men and money, now becoming so pronounced, that section will show an advancement in material development far greater than anything it has done in the past.

LOSING NO OPPORTUNITY.

The Chamber of Commerce of Beaumont, Tex., is right on the spot to promote the material interests of its community. In the discussion of the high cost of living it sees and seizes one opportunity of the kind. Secretary T. W. Larkin of the Chamber of Commerce is circulating widely a letter containing the following:

Considering the present high-living agitation, we take the liberty of calling attention to our present rice crop and its relation to the problem that is foremost before the American public today. We believe that the vast quantities of rice now stored in this section can be made to go a long way toward solving this problem, and it should wield an influence toward reducing prices of other foodstuffs. Rice is now the staple food of two-thirds of the people of the world, and there is no reason why it should not be the staple food for our people. Rice is undoubtedly the cheapest and most nutritious food for man today. One pound of raw rice cooks into four pounds of most nutritious, sustaining and strengthening food. When we figure the cost of this as compared with four pounds of any other food we begin to realize the value of rice and wonder why the American people are not adopting it as their staff of life. The trouble is that dealers have been and are demanding profits that put it in the luxury class, thereby reducing the consumption and consequently depressing the trade.

There are stored in Texas and Louisiana probably 2,000,000 bags of rice. We know that there has not been an overproduction but rather an under-consumption, due to the excessive profit demand of the retailers. Our millers are satisfied with a profit of probably 15 per cent.; the jobbers are or should be satisfied with 20 per cent. to 25 per cent., but when the rice reaches the retailers they demand a profit of 100 per cent. to 150 per cent., selling rice that should cost them not more than 3½ cents to 6 cents per pound at from 8 cents to 15 cents per pound. Also, when supply and demand forces a decline in values at the producer's end, retailers secure rice at cheaper prices, but rarely change their prices to consumers. They demand large profits and abuse rice in this way, when they are glad to handle other foods like flour, coffee, sugar, etc., on 5 to 10 per cent. profit.

Secretary Larkin considers that such facts indicate that there is absolutely no excuse for the present sluggish movement of rice, and in the determination to utilize to the utmost the present agitation about high prices for foodstuffs in directing attention to the high food value and the low price of rice, the Chamber is sending broadcast an offer to ship, upon receipt of an order and the cash, to anybody anywhere in the United States a hundred-pound bag of fancy Japan rice for \$4.50 or of Honduras broken rice for \$3, freight prepaid.

This offer may not revolutionize immediately the retail market for rice, but it certainly will attract widespread attention to the alertness of the Chamber of Commerce at Beaumont to the chance to further the welfare of the city and its enterprise as an advertiser.

FIGHTING HOOKWORM FAD.

More than one influential newspaper in the South is unwilling to give support to the sensationalism of the million-dollar endowment of the "hookworm" fad launched about six months ago. Says the *Times-Union* of Jacksonville, Fla.:

Florida Health Notes for February expresses disappointment with the "Hookworm

Conference" held at Atlanta January 18 and 19. It says that many State health officers who have been studying the subject for years, and who went to Atlanta in the belief that they were to hear the observations of other experts and gather information that would be useful to them in their fight against the insidious enemy, were obliged to sit and hear the veriest commonplaces upon the subject, and remarks that "it is not surprising that they should be and were disappointed to be invited up there to attend a kindergarten class in which they themselves, many of them at least, might play the role of expert teachers."

Surely there can be but few persons imagining that the hookworm "conference" held at Atlanta was a serious undertaking, however enthusiastic and disinterested participants in it may have been. Its main purpose was to attempt to fix the attention of the South upon the million-dollar enterprise, one of the several enterprises of recent years inaugurated for the purpose of diverting the attention of the South from certain fundamental facts that the South can only neglect at its peril. Meanwhile the injury done the South by agitation of the "hookworm" fad continues.

Joseph B. Babb, secretary of the Chamber of Commerce of Birmingham, Ala., writes to the MANUFACTURERS' RECORD as follows:

The services of the MANUFACTURERS' RECORD, it is unnecessary for me to reiterate, are deeply appreciated by our people.

A WISE SELECTION.

The Georgia & Florida Railway Co. has made a wise move in appointing Major W. L. Glessner its land and industrial agent. For nearly a score of years Major Glessner has been actively identified with developmental work in Georgia and Florida, and probably no other man has rendered more efficient service in making known the great opportunities of "wiregrass" Georgia than he. He leaves the office of secretary of the Chamber of Commerce of Valdosta, Ga., to enter upon his new duties, and it is not hard to believe that the performance of those duties will be reflected in advancement of the rich section through which the Georgia & Florida Railway extends.

THE COTTON MOVEMENT.

In his report for February 18 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 171 days of the season was 8,414,591 bales, a decrease under the same period last year of 2,482,186 bales. The exports were 4,455,528 bales, a decrease of 1,815,219 bales. The takings were, by Northern spinners, 1,561,599 bales, a decrease of 362,646 bales; by Southern spinners, 1,347,948 bales, a decrease of 30,509 bales.

Maryland Forestry.

The report of the State Board of Forestry of Maryland for 1908 and 1909 recommends the apportionment of forestry wardens for each county of the State at the rate of one warden for every 15,000 acres of woodland, giving forest wardens power of arrest without warrant in cases of detective violation of the forest laws, the authority to summon men, teams, etc., in extinguishing fires, etc., and requiring railroads to maintain suitable fire lines on each side of their rights of ways. appended to the report are leaflets on the forest reserves of the State and of Prince George's and Kent counties.

The First National Bank of Natchez, Miss., has offered \$150 in cotton premiums through the Chamber of Commerce to farmers in Adams and Jefferson counties raising the largest crop of corn, hay or cotton on five acres of land in one body.

THE AMERICAN CEMENT INDUSTRY AND THE CEMENT PRODUCTS EXHIBITION

By ERNEST F. BURKHARD of United States Geological Survey.

[Written for the Manufacturers' Record.]

In the third annual Cement Products Exhibition, held in the Chicago Coliseum February 18 to 26, the public has been once more treated to a liberal education regarding the products of the cement industry. Compared with the other great industries producing structural materials, such as iron and steel, stone, clay products and lumber, the cement industry is both an infant and a giant.

In view of its rapid growth and lusty proportions it may be of interest here to sketch the history of the development of the manufacture of cements in the United States, with particular reference to the manufacture of Portland cement. Natural cements were manufactured in the State of New York as early as 1819, but their manufacture had been carried on in England since about the middle of the eighteenth century, the necessity for their invention having been the demand for a mortar that would harden under water in the construction of the Eddystone lighthouse. Toward the close of the eighteenth century great improvements were made by Parker in England in the manufacture of natural cement. Similarly in America the demand for a hydraulic cement in the construction of the Erie, Chesapeake & Ohio, Lehigh, Delaware & Hudson and falls of the Ohio canals led to the development of natural cement works, and the earlier ones were by force of circumstances located along these and other canals.

Portland cement, like the so-called natural cement, was first made in England. In 1824 Aspdin patented in England an artificial cement which he termed "Portland" because of the resemblance between the set cement and the Portland oolitic limestone, then largely used for building purposes. The manufacture of Portland cement began in the United States about 50 years later, and in 1875 a true Portland cement was being made from limestone and clay at a small plant at Wam bum in Western Pennsylvania. At this time both in England and in America the wet process and upright stationary kilns were in use. It was a slow and expensive process to reduce hard limestone and shale to a powder, mix them into a paste with water, mold the paste into lumps, charge them into the kilns and subsequently reduce the clinkered mass to a powder. Grinding was then done with jaw crushers and millstones. During the period from 1875 to 1889 under these conditions the manufacture of Portland cement was carried on in a small way, the total annual output for 1889 being only 300,000 barrels, or the output of one medium-sized plant of today. About 1880 there came into successful use in a cement mill in New York State the rotary kiln. This may be said to mark the first of the great steps in advance that have been made in the manufacturing process. Petroleum was first used as fuel, and it is of interest to note that in certain favored localities it is now used. Simultaneously with the development of the rotary kiln have come great improvements in the grinding apparatus. Jaw crushers or crackers have given way to the gyratory crushers of the Gates, McCully, Austin and Symonds type, with constantly increasing capacities. The millstone has been supplanted by iron mills, such as the ball mill, hammer mill and tube mill. About 1895 powdered coal blown into the kilns was substituted, in large part, for petro-

leum as fuel. The recent developments in kiln practice have been to increase the length of kilns, and parallel with this has continued the increase in the capacities of the grinders of the raw material and finished product. In 1903 about 65 feet was a standard length for kilns. In 1910 kilns having lengths of between 100 feet and 150 feet are common. The production of Portland cement has increased each year since any records have been kept, but coincident with the improvements in manufacture, noted above, there were rapid increases in production following the introduction of powdered coal in 1895. The production of natural cement, which was in the lead prior to 1890, has since gradually dwindled, and is now comparatively small.

It is probably safe to say that there is no State in the Union that does not contain the essential elements for the manufacture of Portland cement, such as limestone or marl and clay or shale, and in some of the States these materials may be found in nearly every county. Portland cement is made by burning a finely ground artificial mixture, consisting essentially of lime carbonate, silica, alumina and iron oxide in certain definite proportions. The burning takes place at a high temperature, nearly 3000° F. During burning combination of the lime with silica, alumina and iron oxide takes place, forming a partly fused mass called clinker, consisting of silicates, aluminates and ferrites of lime. This clinker is finely ground, and with it are ground small quantities of raw gypsum. The lime element is furnished from limestone or marl; the silica, alumina and iron oxide come mainly from the shale or clay, although there may be a small proportion of these ingredients in the limestone and also a small quantity of lime in the shale. There are certain rocks, such as the argillaceous limestone of the Lehigh district in Eastern Pennsylvania, that contain enough silica, alumina and iron oxide to render unnecessary the addition of much shale or clay to the mixture. There is also another valuable artificial substance, namely, the blast-furnace slag, which may be used in the place of clay or shale and ground with the requisite quantity of limestone to make Portland cement. This slag must be of a definite chemical composition, and it must, therefore, be controlled by the blast-furnace operations.

There are thus four types of Portland cement on the market, which may be summarized as follows, classified according to raw materials: (1) Argillaceous limestone (cement rock) plus pure limestone; (2) limestone plus clay or shale; (3) marl plus clay; (4) slag plus limestone.

The geographic distribution of cement plants in the United States has depended, of course, to a certain extent on the distribution of these suitable raw materials, but also more largely than is popularly supposed on such commercial features as locations with respect to (1) transportation facilities; (2) fuel supplies; (3) markets and competition; (4) labor supply. There are now more than 100 producing Portland cement plants in the United States, besides some 30 or more plants in various stages of promotion and development. About five-sevenths of the plants are east of Central Kansas, or in the east half of the United States. Grouped on raw materials they fall naturally into three important groups, such

as the cements from the natural cement rock of the Lehigh district, Pennsylvania, where there are 22 or more plants; cements from the marl district of the southern peninsula of Michigan, and the cements from the hard limestone and shale in the gas belt of Kansas-Oklahoma. Intermediate between these groups are plants running mainly on limestone and shale or clay. With the exception of a few plants that burn oil, all the plants not in the natural-gas fields burn coal. There are given herewith a few statistical tables published by the United States Geological Survey to illustrate the geographic distribution of Portland cement plants and their product in the United States, the growth of the Portland cement industry:

Total Production of Cement in the United States in 1906, 1907 and 1908, by Classes.

Class.	1906		1907		1908	
	Quantity (Barrels).	Value,	Quantity (Barrels).	Value,	Quantity (Barrels).	Value,
Portland.....	46,463,424	\$52,466,186	48,785,390	\$53,992,551	51,072,612	\$43,547,659
Natural.....	4,055,797	2,422,170	2,887,700	1,467,392	1,686,682	834,509
Puzzolite.....	481,224	412,221	557,252	442,598	151,451	95,468
	51,000,445	\$55,302,377	52,230,342	\$55,903,851	52,910,925	\$44,477,633

Production of Portland Cement in the United States in 1908 by States.

State.	Pro- ducing Quantity		Value,
	plants	(Barrels).	
Pennsylvania.....	17	18,254,806	\$13,829,807
Indiana.....	7	6,478,165	5,386,563
Kansas.....	7	3,854,603	2,874,457
Illinois.....	5	3,211,168	2,107,044
New Jersey.....	3	3,208,446	2,416,009
Michigan.....	15	2,892,576	2,556,215
Missouri.....	4	2,929,504	2,571,236
California.....	4	2,480,100	3,268,196
Washington.....	2	1,988,874	1,813,623
New York.....	8	1,521,764	1,305,219
Iowa.....	1	1,205,251	1,176,499
Kentucky.....	1	917,977	924,059
Tennessee.....	1	809,396	1,057,423
Texas.....	2	507,603	805,235
Oklahoma.....	1	502,225	511,118
Massachusetts.....	1	310,244	274,965
Alabama.....	1		
Georgia.....	1		
	98	51,072,612	\$43,547,679

Production of Portland Cement in the United States, 1870-1908, in Barrels.

Year.	Quantity.	Value.
1870-1879.....	82,000	\$216,000
1880.....	42,000	126,000
1881.....	60,000	150,000
1882.....	85,000	191,250
1883.....	90,000	135,000
1884.....	100,000	210,000
1885.....	150,000	292,500
1886.....	150,000	292,500
1887.....	250,000	487,500
1888.....	250,000	487,500
1889.....	300,000	500,000
1890.....	335,500	704,650
1891.....	454,813	967,423
1892.....	547,440	1,135,600
1893.....	590,652	1,158,138
1894.....	798,757	1,383,473
1895.....	990,324	1,586,830
1896.....	1,543,023	2,421,041
1897.....	2,677,775	4,315,891
1898.....	3,692,284	5,970,773
1899.....	5,652,366	8,074,371
1900.....	8,482,620	9,280,575
1901.....	12,711,225	12,532,360
1902.....	17,230,644	20,864,078
1903.....	22,342,973	27,715,319
1904.....	26,505,881	23,355,119
1905.....	35,246,812	33,245,867
1906.....	43,463,424	52,466,186
1907.....	48,785,390	53,902,551
1908.....	51,072,612	53,547,679
	395,567,395	.....

*The figures for 1890 and prior years were estimates made at the close of each year, but are believed to be substantially correct. Since 1890 the official figures are based on complete returns from all producers.

It will be noted from these figures that the Southern States produced in 1908 about 2,204,840 barrels, or 4.3 per cent. of the total output. This was a larger percentage than the South had previously produced, but is not as large a percentage as it is capable of producing, considering its supplies of raw materials and fuels. While no complete statistics of production of cement for 1909 are yet available, Portland cement manufacturers believe that the production in 1909 was slightly greater in quantity than that of 1908.

The rapid growth of the cement industry is, of course, due to several factors. It should be stated here, in order to avoid any misconceptions, that cement itself, alone or in the neat form, is used hardly at all. Its use is generally as a constituent in the aggregate of concrete. Portland cement constitutes generally from

one-third to one-ninth part by volume of the concrete, the other ingredients being sand and either gravel, crushed stone, broken slag or cinders, etc. Primarily there existed the necessity for cement in marine and canal construction work, and its use rapidly was extended to heavy masonry, such as abutments, foundations, seawalls, retaining walls, etc. The extension of the use of concrete into the almost endless variety of work that is now accomplished by it has been partially a simple, natural development, but it has been mostly the result of engineering study, ingenuity and commercial aggressiveness. The manufacturers of machinery by which concrete products are made play a leading part in the development of the concrete industry. Construction com-

mension stone. The competitor, concrete, thus has made possible the prolongation of the life of many a stone quarry by creating a demand for a by-product.

Returning to the development and applications of cement concrete, the exhibition shows in the great variety of reinforcing systems displayed that reinforced concrete has come to stay. For this type of concrete in which steel rods are imbedded in poured concrete frames, columns and floors, and thus tie it together into a monolithic mass, there appears to be an ever-increasing field of application. City dwellers are already familiar with the modern type of warehouses, factory buildings, railway stations, hotels, etc., that are going up on every hand. This type of construction seems to have made possible a class of buildings that are well capable of withstanding severe earthquakes and fires. The exteriors of many of such buildings have been faced with panels of brick. So here, again, is an instance of concrete construction stimulating the demand for a competing structural material.

The facility with which concrete is handled and its adaptability to such a wide variety of uses has made possible great developments in public works. Tunnels under our rivers and bridges over them, into retaining walls for track elevations, docks and piers, sewer systems, subways, underground tubes for the transportation of mail and freight, water pipes, reservoirs, chimneys for power plants, lampposts, sidewalks, curb and gutters, street pavements, fountains, swimming pools, park benches, grandstands, statuary, urns and other architectural decorations are a few of the ways in which cement concrete is helping to make our towns and cities more sanitary, convenient, beautiful and, in general, more livable places.

Along the railway lines the same wide range in concrete construction is in evidence. Concrete railway ties and telegraph poles have been made, and while not yet in use to any appreciable extent, the rapid depletion of timber supplies insures the substitution of concrete for such purposes eventually. Drainage and ship canals, reclamation and irrigation projects and water-power developments have been rendered far more feasible by the use of concrete. In general building operations, both public and private, concrete is a very important factor. For the dwelling, whether it be a mansion or a cottage, city, suburban or farm house, concrete is indispensable, at least for the cellar and bathroom floors, areaways, etc., and often the walls of the house may be built of it, either from poured concrete, concrete blocks or concrete tile. Cement tile and shingles are used for roofing, and concrete hitching-posts and clothes-posts are convenient appurtenances about the place. The porosity of concrete, particularly with regard to hollow blocks, has

symbolic of the purpose of the exhibition is the central figure, "Strength," built of cement, mounted on a four-sided pedestal, commemorating the four Ages—Stone, Bronze, Iron and Cement. After a tour of the Coliseum it is difficult to imagine any phase of industrial, civic or rural life into which concrete construction does not enter. Other general relations are brought out, such as the bearing of the concrete industry on the production of competing structural materials, such as stone, brick, lime, plasters, etc., and on the allied material, structural steel. The interesting fact is demonstrated that although cement has made inroads into the territory of some of these materials, its use has stimulated their use to an extent that in some cases almost, if not quite, offsets the damage done. For instance, where crushed-stone concrete is used a demand is created for much stone that would otherwise be wasted, such as the culs from quarrying and cutting di-

long been a hindrance to the preparation of satisfactory material that could be sold at an attractive price. The invention of a number of compounds designed to render concrete practically waterproof is a long step toward solving this problem, and it is probable that in the near future it will be possible to make concrete permanently waterproof at a reasonable cost. Portland cement is used a great deal in mortar for brick and stone. Cement-plastered exteriors are becoming popular, but in this respect American builders can learn much from the Europeans, especially with regard to the artistic effects possible. The use of cement concrete on the farm seems to have almost unlimited possibilities, and the sanitary feature of such work strongly commends it for use in connection with dairying, poultry-raising, etc. Especially useful is concrete for silos, well curbs, cisterns, vaults and greenhouses. One large Portland cement company is already issuing a periodical bulletin devoted to suggestions and instructions regarding the use of cement on the farm. Mining work is requiring increased quantities of cement for concrete shafts and roof supports to replace timbers.

In the rapid development of concrete work until recently the utilitarian side of the problems have naturally received greatest attention. To compete with beautiful stonework concrete must also possess an artistic value, and it is a pleasure to note that this feature is now beginning to receive a fair share of attention. The possibilities of cement as a sculptor's material are attractive. Handsome architectural effects are being produced for exteriors, and for interior decoration it is demonstrated by the handsome exhibits and booths of several of the cement companies at the exhibition that there is here a splendid field for good work.

Lack of space forbids a more detailed account of the ramifications of cement products, but the last, and perhaps not the least, suggestion afforded by the products on exhibition is the assurance that the cement-concrete advocate may finally be laid away to rest in a concrete casket, secure for all time in a concrete burial vault.

As to the future of the cement industry, it may be expected that, having reached such a commanding position within such a comparatively short span of life, marked advances are still to be expected until the maturity of the industry is reached, and after that stage there will always be an advance at least in proportion to the increase in population of the country, and probably in greater proportion on account of the depletion of the supplies of timber and iron.

Fuel supplies for burning Portland cement must be carefully taken into account, but otherwise the specter of conservation has not yet loomed large on the horizon with regard to the raw materials needed in the manufacture of cements.

FEATURES OF THE CEMENT SHOW AT CHICAGO

[Special Correspondence Manufacturers' Record.]

Chicago, Ill., February 21.

Representing in its every phase the greatest exhibition of cement and cement machinery and products ever assembled in the world, the third annual cement show, held under the auspices of the Cement Products Exhibition Co., was opened last Friday night with over 300 different exhibits and not a vacant booth in the building. The show this year is more comprehensive than ever, and strikingly evidences the wonderful strides that are being made annually in the uses of cement and the development of machinery and equipment for all classes of cement work.

Visitors are present in large numbers from all parts of the country, being attracted not only by the show, but also by a number of conventions here this week, among them being the National Association of Cement Users, the National Builders' Supply Association, American Society of Engineering Contractors, Northwestern Cement Products Association, the Interstate Cement Tile Manufacturers' Association. These different associations, the members of which are all directly interested in cement, add to the importance of the show and make this week noteworthy from every standpoint and emphasizes the

important position which cement has secured as a leading structural material.

The big Coliseum has been most beautifully decorated for the occasion, this work being laid out by D. H. Burnham & Co., architects, of Chicago, who also designed the booths. The result has been that everything is in thorough accord with the character of the show. The main decorative feature of the show is a monument which stands in the center of the main hall. This is about 40 feet high, and is composed of a large pedestal, ornamented with figures in relief and supporting a shaft about 35 feet high and the whole being surmounted by a figure of heroic size, typifying the strength and durability of concrete. This design was selected by the company after a competition among many leading architects, and the whole piece of work represents about \$3000.

The observer cannot help but be impressed with the intense interest shown by the visitors in the various exhibits, and this is a very material interest, too, because those exhibiting are making a large number of sales of the products. In fact, there is everything about the show that should constitute it a veritable market for cement products and machinery, because here the intending purchaser can see all classes of machinery made. He can compare, see them in actual operation, confer with others whom he will find here, and as a result ought to be able to secure the very thing he is looking for.

On the whole the show is one of great educational value. It is enlightening the public as to the value of cement, and while many of the visitors are not directly interested in machinery of any kind, they become impressed with a desire to use cement for building their houses or for other purposes, so that in this way a demand is being broadly stimulated for this material.

Being obviously impossible to describe in details the more than 300 exhibits at the show, the following brief outlines are given of some of the exhibits, the idea being to convey some impression of the comprehensive scope and character of things shown:

Raymond Concrete Pile Co., Chicago and New York City.—Model of work now being done by the company for the International Harvester Co. at Chicago. This clearly demonstrates the company's method of reinforced concrete dock construction. The method of driving Raymond concrete piles is also shown by small piledriver in actual operation. The company's Chicago contracting agent is in charge of the exhibit.

Brown Hoisting Machinery Co., Cleveland, O.—Ferro-inclave reinforcement in typical roof construction, a section of this being shown; also models of different types arched floor construction; various methods of bending Ferro-inclave to meet all kinds of construction; ways of fastening to different structural members. Company was represented by A. R. Leeds and G. T. Sinks.

The T. L. Smith Co., Chicago.—Newest design of mixer, known as No. 11, being considerably larger than 1909 model, and embodying a number of important improvements, including cutting down height of power charger, cradle rollers, and instead of running loose on shafts now run in babbitt ball and socket joints, while trucks are of all-steel construction, wood being discarded. More improvements are embodied in the new mixer than have been made in the last five years. New hand machine also shown, as well as other types of Standard Smith mixers. Model of Symons crusher was used for demonstrating its special features. Fred Kerns and Louis Hudson were in charge.

Link Belt Co., Chicago, Ill.—Conveying and elevating machinery; "Peck Carrier,"

for handling cement, sand, clay, rock, etc.; standard and special chains for elevators, conveyors, etc.; "Flint Rim" sprockets, wheels, rollers and equipment. Company represented by W. W. Sayers, R. P. Shimmin, J. C. Nellegar and Ralph Turner.

American System of Reinforcing, Chicago, Ill.—Unit frames for reinforcing beams and girders; unit spirals for columns and unit fabric for floors. With these unit reinforcements no assembling is to be done on job, as they come from shops ready to put in place. Other minor reinforcing labor-saving devices were also shown. Exhibit in charge of General Manager A. A. Clement, assisted by Fred Stone, H. C. Gurney, O. A. Nelson, P. S. Brubaker and others.

Marsh-Capron Manufacturing Co., Chicago.—M.-C. concrete mixers, both tilting and non-tilting; M.-C. cement post machines, concrete hoists, carts, buckets, wheelbarrows and other concrete-handling machinery, including the M.-C. gasoline hoisting engine. The new M.-C. rail-track mixer is also shown for first time. This has steel rails riveting on the body of the mixer, and they run on chilled rollers, and they also have other improvements, all of which add to the wearing qualities of the mixer. E. F. Heywood represented the company.

National Mixer Co., Rochester, N. Y.—Continuous mixer in operation. This machine has a revolving drum, which is its feature, being something different from any other continuous mixer. Gears throughout the machine are all cut and made from cold-rolled steel, which gives them great lasting qualities. H. R. Morton and Sam Finley in charge.

Adjustable Steel Centering Co., Fond du Lac, Wis.—Collapsible adjustable steel centers for the construction of all sizes of monolithic concrete sewers, culverts, conduits, cisterns, manholes, pipes, drains, etc., the feature being that these centers can be adjusted to fit any diameter desired. With the exhibit were President J. E. Hennen, Peter Halfmann and Herman Michler.

National Roofing Co., Tonawanda, N. Y.—Asphalt roofing and asphalt roof coatings; Niagara rock surfacing for old brick or frame houses, and crushed rock for facing cement blocks. John Ayraut, general manager; C. H. Newell and Paul Bennett were in attendance.

National Wire Cloth Co., Sandusky, O.—National spacing chairs, used in assembling rod reinforcement for floors, walls, columns, etc., these being made to fit any kind of bars made; also woven-wire fabric for concrete reinforcement. In charge was President George J. Shadé, assisted by C. H. Ferguson.

The Merillat Culvert Core Co., Winfield, Iowa.—The Merillat adjustable core for making concrete culverts, being adjustable to any size from 20 to 48 inches, and in addition is expandable, collapsible and portable. At the booth were President P. C. Merillat, Secretary C. C. Merillat, John Allen, Grant Merillat, H. E. Reese, Walter Mers and C. W. Kittering.

W. A. Collins & Co., Chicago, Ill.—Concrete reinforcing bars, woven-wire fabric, spirals for columns, metal lath, corner beads, fabricated beam frames, etc.

Eureka Stone & Ore Crusher Co., Cedar Rapids, Iowa.—Mitchell improved stone and ore crusher, size No. 1-B, being in operation; also a No. 2 Mitchell improved adjustable crusher, 1910 pattern. In attendance were President and Secretary I. L. Mitchell, Sales Manager L. A. Kling and H. E. Mitchell.

Svenson-Shuman Machine Co., Pittsburgh, Pa.—Two concrete mixers are of 120 cubic yards daily capacity, and equipped with steam power for operation and traction, self-propelling, and other of 60

cubic yards daily capacity and equipped with gasoline engine. John Svenson and E. C. Riddell were in charge.

Trussed Concrete Steel Co., Detroit, Mich.—Reinforcing steel, consisting of Kahn trussed bars for beams and girders; rib metal for slabs; spiral hooping for columns and cup bars; also "Hy-rib," rib lath and rib studs. Trus-Cor chemical products were also displayed for use in waterproofing and finishing concrete work. In the rear of the booth was a wall with reinforcement exposed, while on the outside was an ornamental railing having panels of rib metal. Representing the company were S. M. Fechheimer, I. L. Hirschman, R. A. Plunt, V. L. Page, W. S. Foster and T. W. Murray, while Julius Kahn was in attendance for several days during the show.

Eureka Machine Co., Lansing, Mich.—Concrete mixer in operation, having capacity of from 10 to 12 cubic yards per hour, and run by an alcohol engine, which attracted considerable attention; also mortar mixer run by gasoline engine. O. S. Case, manager of the company, was in charge of exhibit.

Snell Manufacturing Co., South Bend, Ind.—Street concrete mixing machine for paving work, run by gas engine, but can be operated by any power desired, and having capacity of one-half yard. Company represented by Adam Hunsberger.

Monolith Steel Co., Washington, D. C.—Various forms of reinforcement, including lattice arched-steel reinforcement, being similar to that used in a concrete bridge, 208-foot span, now in course of construction; also variety of beam, girder, wall, floor and column reinforcements, and expanded metal. The exhibit was in charge of Olney J. Dean & Co., the Chicago agents, while J. F. Golding, the patentee of monolith steel reinforcement and also expanded metal, was also in attendance.

Atlas Portland Cement Co.—Atlas Portland cement and products made from it. The booth was constructed entirely of these products in various forms, including a balustrade containing tracery, panels and pilasters in different colors, a cement-tile floor, cement garden seats and sun dials, statuary, columns, entablatures, etc., all of the work being constructed of Atlas Portland cement especially for the exhibit by Emerson & Norris of Boston, Mass. P. Austin Tomes, general sales manager of New York, was in charge.

Universal Portland Cement Co., Chicago and Pittsburgh.—Universal cement and products made from it, including an illuminated cement fountain, cement benches, railings, vases, tables, ornamental posts and statuary; automatic stereopticon, showing slides of concrete work of all kinds in which Universal was used. With the exhibit were Edward M. Hagar, president; B. F. Affleck, general sales agent; Mr. Ruder, Pittsburgh manager, and a number of field representatives.

Sandusky Portland Cement Co., Sandusky, O.—Demonstration of Medusa white cement in columns, artificial stone and used with colored sands in decorative work. In attendance were Manager S. B. Newberry, A. B. Nelson, E. A. Mollan, R. K. Stuart, R. Fisk and D. Jenkins.

Alpha Portland Cement Co., Easton, Pa.—Photographs of plant and work constructed of Alpha Portland cement; also samples of raw materials and finished product. D. Richter, Chicago manager, was in charge.

Standard Scale & Supply Co., Pittsburgh, Pa.—Four sizes of Eclipse concrete mixers ranging in capacities from one-quarter to one cubic yard; also a twin mixer operated by one machine. With the exhibit were Sales Manager James Simpson; Chicago manager, M. H. Reed,

and mechanical engineer, W. A. Browning.

Ohio Ceramic Engineering Co., Cleveland, O.—Concrete mixers, hoists, conveyors, carts, controllable buckets and spreaders, contractors' dump buckets, industrial cars, portable track, brick-drier cars and brick-making machinery.

Cropp Concrete Machinery Co., Chicago, Ill.—Mixer equipped with low charging platform, and other Cropp mixers of several sizes having some special new features; mortar mixer also shown. In charge of exhibit was President A. J. Cropp.

Clinton Wire Cloth Co., New York city.—Electrically welded wire fabric for various concrete reinforcement and wire lath. J. W. Stromberg and A. J. Bettisette of Chicago office in charge.

Skillet & Richards Manufacturing Co., Chicago, Ill.—A working exhibit of elevating and conveying machinery; also friction clutches, malleable and steel elevator buckets, spiral steel conveyors and other materials used in manufacture and production of Portland cement; also line of transmission machinery for general purposes. Secretary H. W. Richards and M. L. Allen, purchasing agent and special salesmen, were in charge.

Zeiser Bros., Berwick, Pa.—Dividing plates for sidewalk construction work and forms for curbs and gutters. With the exhibit were J. R. Zeiser, A. Zeiser and C. E. Sherman.

Acme Equipment & Engineering Co., Cleveland, O.—Doud's Acme center-dump buckets, controllable discharge buckets, combination center-dump bucket and car with controllable discharge.

Taylor Iron & Steel Co., High Bridge, N. J.—Machinery parts for cement mills; also gears, chains and steam-shovel teeth and lips, and racks and pinions, all being made of manganese steel, which has long-wearing qualities. In attendance were R. D. Van Valkenburgh, H. A. Johann and W. R. Glasgow.

Wm. B. Hough Company, Chicago, Ill.—Ransome concrete mixers, M-B special open-hearth cold-twisted steel bars, Peleter cars, Wrightworth hoisting engines, Acme buckets, Hercules clamshell and orange-peel buckets and special contractors' outfits. Wm. B. Hough in charge.

Corrugated Bar Co., St. Louis, Mo.—Corbar beam unit, fabricated reinforcement, corrugated round and square bars; model showing typical beam and floor reinforcement. In rear of booth were transparencies showing structures in which this company's materials were used. Messrs. Sternfels and Thomson represented the company.

Vaughan System, Chicago, Ill.—Factory-made reinforced-concrete floor construction. J. W. Vaughan in charge of booth.

American Steel & Wire Co., Chicago and New York.—Main feature of booth was a practical illustration of method of placing triangle mesh reinforcement in buildings ready for the concrete to be placed. In addition, samples of the company's products were shown in various forms and for various purposes. In attendance were H. S. Doyle, manager of reinforcing department; H. T. Pratt, New York sales manager; B. S. Pense, engineer of reinforcing department; O. T. Allen of Chicago office, and O. M. Clifford of St. Paul (Minn.) office.

Concrete Stone & Sand Co., Youngstown, O.—Display consisted entirely of concrete tile made in various parts of the country according to the Pauly system of manufacture; also section showing fire-proof tile for floors and partitions. At the booth were A. A. Pauly, E. L. Williams, San Francisco agent; H. L. Green,

Waterloo (Iowa) agent, and Kennedy Stenson, Montreal (Canada) agent.

Sturtevant Mill Co., Boston, Mass.—Ring-roll pulverizers for grinding cement, clinker, limestone, coal, etc.; also a newaygo screen. In attendance at booth were Secretary L. H. Sturtevant, H. A. Tomlinson and W. T. Doyle.

Williams Patent Crusher & Pulverizer Co., St. Louis, Mo.—Hammer mills for the raw material end of cement plants; Williams Vulcanite grinder in operation for preparing raw material for roller mills in cement plants. M. J. Williams of Chicago office in charge.

Barrett Manufacturing Co., Philadelphia, Pa.—Barrett's paving pitch for brick filler; Tarvia for paving; Tar-Rok for subfloors; Barrett specification pitch and felt for roofing and waterproofing. Booth was in charge of H. B. Nichols, W. J. Walker and C. G. Wells, all of the Chicago office.

Peerless Brick Machine Co., Minneapolis, Minn.—"Peerless One Man Cement Brick Machines" and mantels, piers and ornamental brick work made on these machines. In attendance were President L. V. Thayer and J. J. Palmer.

Miracle Pressed Stone Co., Minneapolis, Minn.—Miracle positive feed continuous mixer; Miracle drop core model double air space block machine; cement pipe molds for drain tile; machines for making bell end sewer pipe and bevel and tongue pipe for sewers; cement fencepost machine and all kinds of cement-working tools. In attendance were R. O. Miracle, O. U. Miracle, G. H. Dettor, J. E. Bidwell, W. G. Jenkins, F. H. Conklin and others.

U. S. Gypsum Co., Chicago, Ill.—Gypsum prepared stud, to take place of wooden stud; Sackett plaster board to go on it, taking place of wood lath, and partition tile blocks. Booth was built up entirely of the company's products. With the exhibit were W. D. Collins, E. V. Price and others.

Sharon Steel Hoop Co., Chicago.—Model of concrete silo constructed according to company's system; slotted steel studing, for use in construction of fireproof partitions, suspended ceilings and wall and column furring; Parker steel corner beads, for protection of plaster corners. In charge were R. C. Garlick and R. C. Heidt.

Hill Clutch Co., Cleveland, O.—A working exhibit of the Hill collar-oiling bearing and Hill friction clutches; also shafting, couplings and other power-transmission accessories. Hunter Morrison, W. W. Collins and G. W. Hofmann looked after the exhibit.

The Knickerbocker Company, Jackson, Mich.—Several types of the Coltrin concrete and mortar mixers in operation, equipped both with and without automatic proportioning hoppers for rock, sand, cement and lime. With the exhibit were W. B. Knickerbocker, Nels. Erickson and Geo. Schaffer.

Dodge Manufacturing Co., Mishawaka, Ind.—Eureka automatic water softener and purifier; a jack shaft with split friction clutch and pulleys used in cement plants.

Clover Leaf Machine Co., South Bend, Ind.—Two portable concrete mixing outfits, one equipped with gasoline power and other with electric motor; also power side loaders. In attendance were President W. O. Williams, J. C. Jennings, C. U. Williams and O. A. Ross, Chicago representatives.

Besser Manufacturing Co., Alpena, Mich.—Besser power cement drain and sewer pipe machines; rapid hand drain tile machine; sectional steel centering forms for monolithic sewers; vertical core, face down, wet process block machine and pulverizer to break up lumpy cement.

Samuel Cabot, Inc., Boston, Mass.—Slabs and panels showing different cement

surfaces stained and waterproofed with Cabot's stains. In charge of booth was E. A. Foster.

Cement Machinery Co., Jackson, Mich.—Systematic continuous mixer; Jackson batch concrete mixer and the Favorite mechanical tamping cement brick machines. Sid. L. Wiltse looked after the exhibit.

Century Cement Machine Co., Rochester, N. Y.—Hercules concrete block machines and power tampers. In charge of booth was A. T. Bradley.

General Fireproofing Co., Youngstown, O.—Portion of reinforced concrete roof construction with "Trussit" metal; cold-twisted lug bars, square lug bars, expanded metal and wire fabric reinforcement; also the "Herringbone" built-up girder frame, with rigidly attached shear member. In attendance at booth was John Smith, Chicago manager.

Glidden Varnish Co., Cleveland, O.—Finishes for modern building construction, finishing for concrete floors and interior walls, and exterior surfaces of concrete and stucco; also waterproofing materials.

Raber-Lang Manufacturing Co., Kendallville, Ind.—Molds for manufacturing various sizes and kinds of concrete pipe and tile and Crescent continuous concrete mixers.

Sasgen Bros., Chicago.—Circle swing setter, with extension equipments and pole wheelbarrow and other derricks used by builders and contractors.

Among the other exhibitors are:

American Pulverizer Co., St. Louis, Mo.
Ashland Steel Range & Manufacturing Co., Ashland, O.

Association of American Portland Cement Manufacturers, Philadelphia, Pa.
Ballou Manufacturing Co., Belding, Mich.

Bird Company, J. A. & W., Chicago.
Blaw Collapsible Steel Centering Co., Pittsburgh, Pa.

Bolte Manufacturing Co., Kearney, Neb.
Burrell Manufacturing Co., Chicago.
Chain Belt Co., Milwaukee, Wis.
Dietrichs' Clamp Co., Little Ferry, N. J.
Dunn Manufacturing Co., Allegheny, Pa.
Fisher Hydraulic Stone & Machinery Co., Baltimore, Md.

Foote Concrete Machinery Co., Chicago.
Ideal Concrete Machine Co., South Bend, Ind.

Kelley Island Lime & Transport Co., Cleveland, O.

Kent Machine Co., Kent, O.
Kent Mill Co., New York, N. Y.

Koehring Machine Co., Milwaukee, Wis.
Lane-Fries Cast Stone Co., Camden, N. J.

Lehigh Portland Cement Co., Cleveland, O.

Lock Joint Pipe Co., New York, N. Y.
Municipal Engineering & Contracting Co., Chicago.

National Association of Cement Users, Philadelphia, Pa.

Northwestern Expanded Metal Co., Chicago.

Orenstein-Arthur Koppel Company, Chicago.

Reinforced Concrete Pipe Co., Jackson, Mich.

Somers Bros., Urbana, Ill.
Standard Asphalt & Rubber Co., Chicago.

Troy Wagon Works Co., Chicago.
United Cement Machinery Manufacturing Co., Plain City, O.

Wadsworth, Howland & Co., Boston, Mass.

WM. H. STONE.

The Missouri, Arkansas & Gulf Railway Co., capital \$5,000,000, has been chartered under the laws of Delaware by R. Rutledge and A. T. Fisher of St. Louis, Mo., and W. N. Akers of Wilmington, Del. The line proposed by the company is indicated by its title.

TO BE COMPLETED THIS YEAR.

Plant of the Mobile Portland Cement & Coal Co.

[Special Cor. Manufacturers' Record.]

New Orleans, La., February 18.

In connection with the development of the plans of the Mobile Portland Cement & Coal Co. offices have been opened in the Hibernia Bank Building, New Orleans, with Alfred Hiller, general sales manager, in charge. Work on the company's immense plant at St. Stephens, Ala., is under way, the ground having been broken and the machinery having been purchased or contracted for, and it is the calculation that the cement plant will be in operation, with a capacity of 1,000,000 bushels per annum, before the end of 1910.

The Mobile Portland Cement & Coal Co. contemplates a development of 10,000 acres of coal land on the Warrior River, near Tuscaloosa, and work on this end of the enterprise will proceed as rapidly as possible; but the immediate development will be in cement manufacture. This feature of the undertaking will represent an investment of about \$1,000,000.

It is proposed ultimately to have a coal station in New Orleans; also a plant for the grinding of clinker. The unique system of shipping clinker from the cement mill by barge, to be ground in New Orleans, is considered by the company as one of its strong advantages; and, everything combined, it is expected that the cost of manufacturing and marketing the cement of this company will be as low as any in the United States, if not lower.

The Mobile Portland Cement & Coal Co. has the advantage of representing some of the largest financial interests in New Orleans and Mobile, and other strong capitals. It is headed by influential men, its president being L. E. Russell, president of the Mobile & Ohio Railroad, and the affairs of the company will be managed by an executive committee of practical business men. The chairman is Dr. O. Gerlach, recently of Pennsylvania, a well-known expert in cement manufacture; Alfred Hiller, New Orleans, a man for 20 years identified with the cement trade of this section, and having large financial connections; Pat Lyon, Mayor of Mobile, and Oscar Ulland, a capitalist of Mobile.

ALBERT PHENIS.

ASTONISHED AT TEXAS.

Impressions of Capitalists of St. Louis.

A number of leading business men and capitalists of St. Louis recently made a tour of Texas in order to make a personal study of the business conditions in that State and the opening for investments. The MANUFACTURERS' RECORD has received letters from several of them giving their views as to the outlook in Texas. Mr. L. D. Dozier, capitalist, writes:

"While I had heard most flattering reports from this section of the country, I can now say that I was greatly astonished, as well as delighted, to note the wonderful development in bus'ness to be found there. Business seems to be generally good, and improvements of the most substantial nature are to be seen on every hand, and a great deal of building in course of construction.

"In most of the places visited they have the advantage of splendid street-car systems and a substantial civic pride and wonderful co-operation seems to prevail everywhere. Splendid structures have been erected for hotel purposes, and many others are contemplated. In no other part of the country that I know of is there such a widespread improvement in progress, and the next decade will show, I feel certain, an equally great improvement and develop-

ment as has been shown in the last."

Mr. J. B. Moberly, assistant secretary of the Mercantile Trust Co. of St. Louis, writing of his impressions of Texas, says:

"From observations gathered in the short visit in Texas it would seem that there is plenty of excuse for the feeling of pride that dominates the entire State.

"Her growth in the past few years has been wonderful, and her potentialities for further development are limitless. The fertility of her soil, the enterprise and progressiveness of the people, her abundant resources and salubrious climate, all are a combination of assets that will win for Texas a commercial standing and a population that will make the older and more congested States, now ranking her, look to their laurels.

"Probably the best illustration of the growth and development of the Lone Star State is shown in her cities. San Antonio, Houston and Dallas are three cities which could be classed as metropolitan without straying from the truth. San Antonio, of course, retains some of her plazas and an atmosphere reminiscent of other days, but with few exceptions a visitor to any of these cities is at once struck by the newness of everything. Their upbuilding took place in a fortunate age.

"Modern and completely equipped office buildings pierce the skyline. Palatial hotels that would be a credit to St. Louis or Chicago have been erected, while beautiful and dignified homes, with well-kept lawns, attest their advancement along social lines. Well-paved and well-lighted streets and good street-car facilities, with modern stores and shops, give further evidence of the transformation of these Texas cities into municipalities of the first class.

"The present and future cry of Texas is undoubtedly not of population. That is coming in unbidden. Every train that enters the great State carries its full quota of new citizens.

"Her aim and need are manufacturing plants and industrial enterprises, which will put her on an independent footing. At the present time her products are shipped to the North and East and then imported back as finished commodities. Time, however, will cure this handicap, and the near future will see Texas entering the ranks as a competitor and making herself keenly felt in the country's markets."

Plans Invited From Architects.

The State of Tennessee has decided on the construction of three Normal School buildings, which will be at Memphis, Murfreesboro and Johnson City, respectively. These structures are to be of modern design and finish, and the State Board of Education, R. L. Jones, secretary, Nashville, invites Tennessee architects to submit plans and specifications by March 18. Each plan must be accompanied by an estimate of the cost for both fireproof and ordinary construction. Probably stone or concrete foundations and brick walls will be adopted. The Murfreesboro and Johnson City structures will each comprise a main building costing about \$130,000 and a woman's dormitory costing about \$50,000. The Memphis structures are to include a main building costing about \$200,000, a woman's dormitory costing \$100,000, a model school costing \$30,000 and a central heating plant.

West Virginia Crops.

In 1909 West Virginia raised \$18,362,839 of field crops, \$2,332,631 of fruit and \$44,618,529 of live-stock. In field crops corn lead at \$8,356,350, with hay second at \$4,998,060; wheat third, at \$1,933,800; Irish potatoes fourth, at \$1,295,854; oats fifth, at \$804,301, and tobacco sixth, at \$721,578. Apples led the fruit, at \$1,887,343.

Marvelous Transformation Under Way in Texas Panhandle.

By C. F. DRAKE of Dalhart.

[Written for the Manufacturers' Record.]

The greatest cattle ranch ever owned by one man is being dismembered gradually, not to say with relative swiftness, and in a few years more it will cease to exist as a whole.

In its existence as a cattle ranch the "X. I. T." was famous the world over, and more stories, both of fact and fiction, have been founded upon incidents occurring within its borders than have been written about all the other ranches combined. For it was not in size alone, nor in the picturesqueness of its environment, nor in the human interest that attached to its cowboys and horse wranglers which caused the story writers to seek it out with greater frequency, with greater delight than they sought out other

now graces the State's administrative headquarters, and take his pay in lands, the Panhandle, so little accounted as worth the while, was reckoned with.

"The Staked Plains" or "Llano Estacado," as we were wont to see it designated in the geographies of only 25 years ago, was thought of by the lawmakers at Austin. Happy thought!

"There lies an immense tract of worthless land, and if we can get the man with the money to build our Capitol, we will give him all the land he wants up there. It is no good for anything except the long-horned steer; it is bringing the State comparatively little revenue. Why not get rid of a big slice of it and turn a neat trick in real estate for the State?"



THE OWNER OF THIS PLACE, AN OLD-TIME COWMAN, NOW DOES A BANKING BUSINESS IN ADDITION TO RAISING APPLES IN AN IRRIGATED ORCHARD.

ranches, but as well was it the able management, the advanced methods pursued by the owners of the "X. I. T." ranch, the superior grade of cattle with which its vast reaches were grazed, that far and near drew attention to it, while no less attractive was the delightful climate that made life on the famous ranch ideal.

Years ago the State of Texas laid little store by its Panhandle lands. But little, really, was known about the mystic region wherein dwelt the cowboy of story, song and pictured page, the dreaded tarantula, the long-horned steer, where the foraging

The man was found in the person of J. V. Farwell, before whom the undertaking and proposition to build the Capitol and take his pay in as many acres as he wanted of the Staked Plains was laid.

Almost to the surprise of the Legislature, Mr. Farwell accepted the proposition made him, agreeing to undertake the work, to give bond for its accomplishment and to take his pay in 3,500,000 acres of what is now the Upper Panhandle lands.

Far-seeing though the man may have been, yet he was never so far-seeing as to



A PANHANDLE TOWN AT THREE YEARS OF AGE. THE FOREGROUND HAS SINCE BEEN THICKLY BUILT AND THE SCHOOLHOUSE AT THE EXTREME LEFT HAS BEEN REPLACED BY A \$30,000 STRUCTURE OF CEMENT AND BRICK.

Comanche, and perchance the bloody Sioux, was wont to dash and slaughter. So that, 25 years ago, when the solons at Austin were casting about them to devise ways and means with which to build a Capitol to do honor to the great State, it was suggested

realize the mine of wealth that he struck when he was given the deeds to an empire in itself when the last stone was laid in the walls of the Capitol building that cost him \$5,000,000, for the land had been appraised to him at less than a dollar an acre.

Today not an acre of the million or more acres that remain to the Farwell estate

can be bought for less than \$15, while there have been thousands of it sold off at prices in considerable advance of that figure.

The building and completion of the State Capitol was in itself an undertaking from which most men, even of Mr. Farwell's wealth, would have shrunk, taking the chances he did to recover his money, and it is doubtless true that he never realized to what great figures his profits would run. It was the largest, perhaps the most unique real estate deal ever consummated in the history of the United States, by which one man acquired title to so vast an area, and drawing so largely upon his imagination, took such immense speculative chances for financial returns.

Yet this he did, and today Texas owns a Capitol, the seventh largest building in the world, the third largest in the United States, and one of the most striking architectural beauty. It stands a monument not only to the shrewdness of the man who built it, but to his honesty as well, for no scandal ever arose either in the course of its erection or since. It was an honest transaction, honestly carried out. The State then believed it was making a keen bargain. The land given in exchange for the Capitol was not regarded as being worth even as much as the figure at which it was appraised to the Capitol builder. Indeed, men often refused to buy it at 25 cents; at half the latter figure.

Instances, numerously cited, some of them showing curious phases of the short-sightedness of human nature where land figures, are on record of queer trades being offered and declined when such trades were based upon land exchange in the Panhandle. As, for instance, when one cattle owner in Hall county offered a neighbor two sections of land if the neighbor would haul two or three two-horse wagon loads of household plunder a distance of 20 miles to Estelline.

The offer of the land was declined, the man with the idle teams averring that he then had more of the prairie dog-ridden land than he knew what to do with, yet he generously hauled the goods without charge. Today, upon one of the sections offered in exchange for the hauling, stands the prosperous little city of Memphis, with its 5000 population, its ornate business blocks, its beautiful courthouse, its mills and factories, its mammoth cotton gins, its splendid electric-light and power plant, its immense cotton-oil mills where thousands of Hereford steers are fed and fattened every winter, and where town lots sell for many hundreds of dollars more than one could have had a whole section for 20 years ago. No less than marvelous have been the changes wrought by time and man's unceasing cry for land, more land.

Again, it is a matter of record that where stands today the little city of Dalhart, with its 6000 population, its progressive and enterprising citizenry, with its two transcontinental trunk lines, the Chicago, Rock Island & Pacific and the Fort Worth & Denver, linking it with bands of steel to the North, the South, the East and the West; where in two years nearly 10 miles of sidewalks have been built; a sewerage system has been installed; a splendid mill and elevator has been erected and is now running at full capacity day and night grinding flour which it is shipping all over three or four of the adjoining States; where in less than 60 days from its inception, when the first letter was written to the promoting agent of the contracting and building company, steam was up in the boilers and the first run of butter made from the machinery in the new creamery; where the first talk on the streets of a new school building resulted the next day in an election being held to authorize the issuance of bonds for a \$25,000 schoolhouse; where two new railroads are under construction, the one to tap the immense coal deposits of Colfax county, in New Mexico, and give the region round about cheap steam coal and make of Dalhart a jobbing and trading center, to say nothing of the industrial possibilities opened up; the other to give more direct eastern connections and open up a vast, rich, rapidly-settling region; it is a matter of record that one W. F. Felton seven years ago came to Dalhart and stopped over night to close a trade with a peripatetic land agent by which the land agent was to transfer the whole section in the center of which Dalhart now stands to said Felton for \$2000 cash. It is further a matter of record that, sleeping on the trade over night, the land agent, regarding Mr. Felton as an easy mark, raised his price to \$4000, refusing which, the assumed buyer took train and returned to San Antonio, only to come back a year and a half later and pay for one business lot more than he could have had the whole section for at the agent's revised figures.

Instances like these could be multiplied almost innumerable. They sound like fiction, yet they are indubitable facts, and only go to show how little people who had lived all their lives within the borders of Texas knew about the land values; about the incessant call of the soil to its inhabitants.

People called Mr. Farwell a visionary when he closed with the State for his 3,500,000 acres, giving in exchange to the State one of the handsomest government buildings, if not one of the costliest, in the Union.

It is not unworthy of note, as indicative of the resources of the State that could afford to give so vast a slice of the public domain for a government home, that every piece of material entering into the construction of the Capitol was gathered within the State's borders.

Every stone was quarried, every slab of marble was blasted from native hills, every ton of metal was mined and smelted out of the bowels of the earth from some Texas county, every plank and board was cut from Texas forests, the enduring edifice therefore furnishing a striking object-lesson of the State's resources, besides being pronounced by architects and architectural connoisseurs of world repute to be one of the most artistic and harmonious buildings in the world. There are State Capitols that cost much more money to construct, but it is doubtful if there is one that possesses more noble and graceful lines, or of which it can be boasted by the citizens of the State that not a stick nor stone nor scrap came from without the State's own borders. While the magnificent pile cost millions, there would doubtless have been millions more added to its cost but for the fact that home production entered solely into its construction, combined with honest administration.

It is no less worthy of note that, while Farwell was given carte blanche almost in the building (the only specifications being that certain lines of architecture should be followed, certain metes and bounds should be met, certain classes and grades of material should be employed), he did not vary a hair's breadth from the task he had chosen,

the time required, about three years, even exceeding the original estimate of time by considerable.

In this, not less than in the empire he began, Farwell builded for himself an everlasting monument.

No one will ever know, perhaps, the vast fortune shipped out of Texas in cattle alone off the great "X. I. T." ranch. For Farwell, in common with all men of his stamp, was not content to graze the lean, hungry, rangy "longhorn," whose chief value lay in his ability to withstand exposure, to live on the dead bunch grass of the plains, to cover more miles than the swiftest horse in the "kraals," and to come through the winter a stack of bones and scrawny hide, bringing but a few dollars in Kansas City, yet at practically no cost to his owner save and except the hire of a dozen or two men who had herded him and rounded him up and branded him in due season. For why, it may be asked, was his cost so little? The land was regarded as worthless, and where the cowman paid the State even the beggarly stipend asked for the lease of the immense tracts over which the longhorn roamed, it was so small as not to be taken into calculation. In other words, the steer picked up his own living without cost for feed to his owner, and what he fetched in the market was so much clear gain.

It was this situation that Farwell first proposed to change.

He had studied the conditions in the Panhandle. Not without investigation had he undertaken the stupendous task of building a great State's Capitol with apparently so slim a chance of getting his money back. He had learned the positive feeding value of the short buffalo grass and the mesquite; he had made soundings, or borings, and knew that an immense supply of pure water underlay all this vast region, inexhaustible, easily reached, while the old-time cowman had depended solely upon surface pools and "tanks" for the water supply for his herds, little dreaming that just a few feet beneath him lay a supply of the purest water ever sprung from the bowels of earth.

Farwell had learned these things, yet kept them to himself the while he proceeded steadily with the work of completing the Capitol.

Three million and a half acres is a vast expanse of land, so great, in fact, that the average mind fails to grasp its significance. In one compact body this much land would equal almost 5500 square miles; an area greater than some European principalities, greater than the area of Connecticut, nearly five times as great as the area of Rhode Island. The grant to Farwell, however, did not lie in one compact body, but extended in irregular formation from the northernmost line of the Panhandle to about 250 miles south, with a width varying from 20 to 60 miles, and traversing five large counties.

This was as the Capitol builder wanted it.

The future realized his wisdom, for in that extent of great, silent spaces have sprung into existence more than a score of thriving towns, and every town sprung into being has added dollars in value to the Farwell lands.

Yet the idea of towns and cities in the Panhandle at the time the deal was made was considered preposterous, if considered at all. To mention agriculture in connection with Panhandle lands was to merit a laughing scorn, even though one did not have to dance to the play of bullets from a .44; for, be it known, the cowman was jealous of his prestige and power, and little tolerated even the talk of farming. For in this, as in all cattle countries, agriculture was never a welcome subject. Anything that would break into the tenure of the cattle king was under a taboo, bitterly resented by the cowman and cowboys, who disputed the ability, the adaptability of the Panhandle land to grow crops, deriding its possibilities, misrepresenting its physical and climatic conditions for the sole purpose of keeping out farmers and settlers whom they designated as "nesters," "wolves" and other terms of derision and contempt.

Farwell, investigating, had learned all these things, yet he kept his own counsel, biding his time, laying his plans—awaiting the time when he should receive from the State the deeds which would make him master of his own.

Farwell gave the name to his ranch of the "X. I. T." because that was the brand under which his cattle were registered according to the State laws regulating the raising and grazing of cattle. Where so many thousand roamed at will, it was necessary to have each individual branded with its owner's peculiar mark. Thus was the "X. I. T." given individuality.

Today there remains in the tract less than a third of the 3,500,000 acres originally passing to Farwell from the State. It is either cut up into smaller ranches stocked with the famous "white faces" or Hereford steers, or the Polled Angus, the splendid black cattle that make so much more in weight than any other strain. It is occupied by towns and aspiring villages, by real little cities; it is being farmed by hundreds, yea, thousands of wheat growers who have trekked here from the four corners of the earth, intent upon home and fireside. Where once one might travel days upon days and see nothing more interesting than the ever-fading skyline, today one may not get out of sight of a windmill, a spot on the horizon which some New Yorker, some Georgian, some Illinoisan, some Californian, perhaps some German late from the old country, some Swede whose tongue yet stumbles with his broadest of broad "a," calls home.

'Twas a great, a grand conception that led Farwell to make the deal with the State of Texas. In his vision of the future doubtless he pictured himself personally heralded down the pages of history of his country as the builder, the developer of a new land wherein an emperor might find reign. Who knows?

Only once in a while now will one see a specimen of the famous old longhorn, kept, perhaps, merely as a curiosity. It is said that he is even rarer than his fellow, the bison, for of the latter there are in the Panhandle two herds—one at Goodnight, 50 miles east of Amarillo, and one herd of 30 head at Dalhart owned by the Blair brothers. After six years in every section of Texas, the writer has yet to see left a single "longhorn." Not even in New Mexico are they now to be found.

Thus has Farwell's work lived after him.

For, the first move made by Farwell after taking possession of his lands was to institute the weeding out of the longhorn, beginning by a process of importation of the cows of the Hereford and Aberdeen Angus strains and crossing them with the longhorn native. In a comparatively short time the "X. I. T." was fully stocked with the new strains, and then came the news that Farwell's brand was bringing nearly thrice as much in the Kansas City markets as did the native. Then began a rush upon the part of many, those nearest the "X. I. T." possessions, to follow the example of thrift and forwardness thus set. In a few years the Panhandle beef steers were in demand in every cattle market west of the Mississippi. Buyers began to invade the territory and bid against each other for the products of the ranges, and soon the old system of the "trail" was done away with.

Railroads came and the cowboy's glory began to wane, and today as the writer sits

at his typewriter the sheriff of the county, an old cowman, bewails the fact that he can no longer get "plumb good cow punchers."

The cowboy is not.

Hence the sheriff, hedging against the time ever before the wearer of official toga of finding himself out of office, and contemplating a return to his loved occupation of "the cow business," finds that he is confronted with an absolute absence of the sort of man who would make a trusty and skillful "cow hand." Either earth has swallowed him up; he has turned doctor, druggist, teacher, lawyer, preacher, editor; he has grasped the present opportunity and turned banker or real estate promoter, or else, stubborn one, he has hiked to Old Mexico. And he never returns thither.

So, when our friend the sheriff shall choose to re-enter the "cow business" he will perchance go to Old Mexico to get his genuine, old-time "cow puncher." And perchance the sheriff will have to plant his ranch in Mr. Diaz's territory if he proposes to run with nothing less than the genuine article.

Insight as to the inroads of the husbandman is shown when it is known that in J. V. Farwell's time the "X. I. T." ranch owned to more than 100,000 steers carrying its brand. Today there are scarcely 18,000 head, and the number of the "X. I. T." brands grows less with each succeeding year, with each succeeding influx of the landless man seeking the manless land until within the next decade the "X. I. T." ranch as an entity will have ceased to exist.

True, there will always be cattle raised in Texas, but the work wrought by Farwell

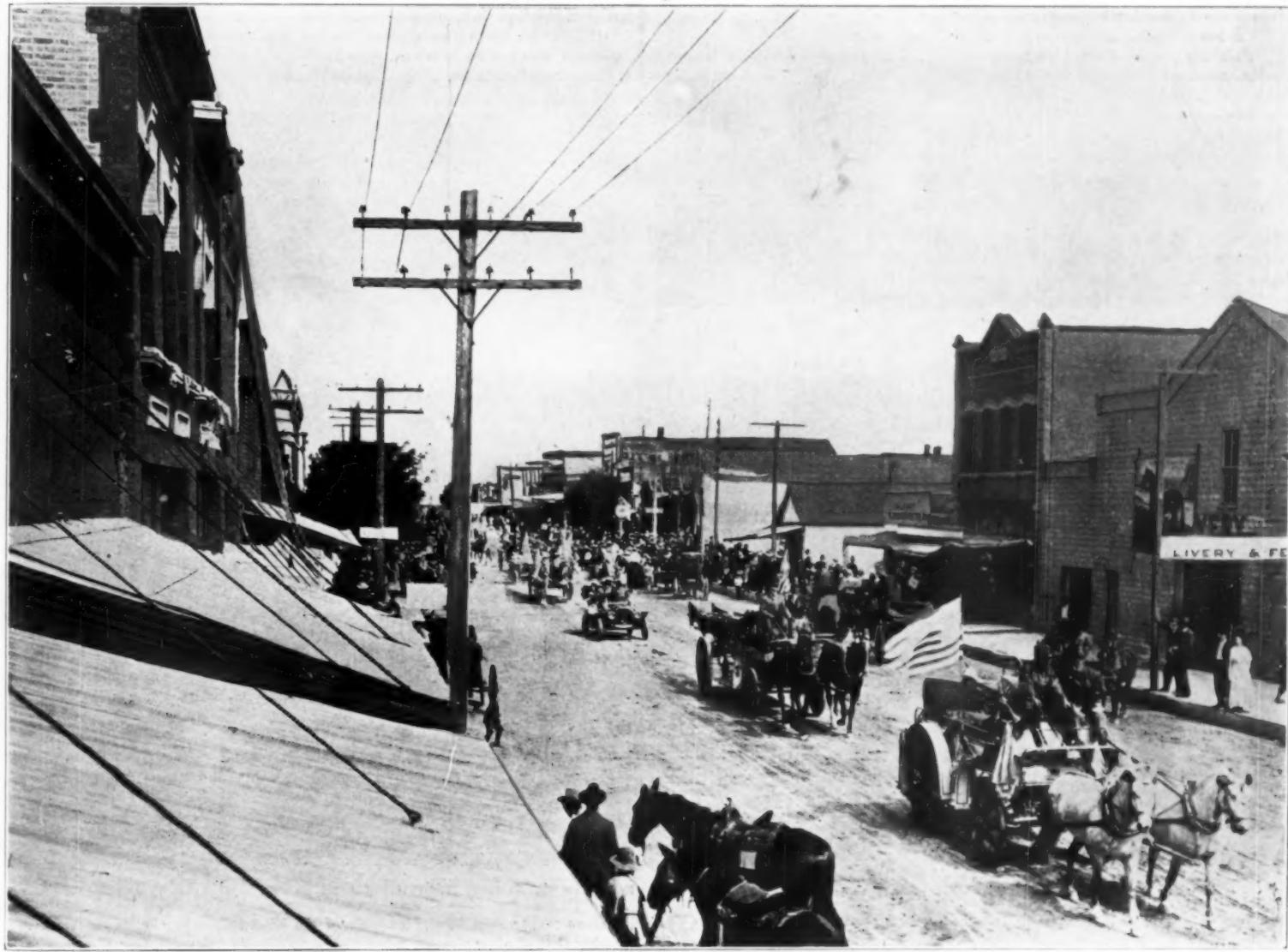
ispheric vision he looked out over the country which lay at his feet. He must have seen, as with introspective eye, the cities and towns and hamlets spring up here, there and yonder; he must have seen the bands of steel that should come and link this great, silent space to the thrumming East; he must have beheld as in a magic glass a happy, prosperous land, teeming with happy homes, smiling with broad, fertile, well-tilled acres.

Yet Farwell was known as a modest man.

But little he made known of his plans. But little he confided, even to his most intimate friends, of the noble ideas throbbing in his brain. Albeit he combined with his great work—a work as broad as Texas, as deep laid as the scheme of civilization and no less beneficial—the greatest common sense and business acumen.

No move was made without first being submitted to the test, the crucible, of good business principles. But once an idea entered that level mind, once it was thoroughly analyzed, the chaff winnowed from the whole wheat, and a determinate course set forth for action, that course was followed to the letter.

Passing from history to the present, we see the work of J. V. Farwell being carried as all good works that last, to the ultimate. The work is in the hands of a corporate body known as the Capitol Freehold Investment Association, whose home is in Chicago, which was Farwell's home. It will be carried on for years to come, its breadth and scope and horizon of action not being confined to the limits which yet remain of the original grant by the State to the empire builder.



THE THREE-YEAR-OLD TOWN GROWS TO SEVEN YEARS AND OPENS ITS COUNTY FAIR WITH A BLENDING OF CIVIC AND NATIONAL PATRIOTISM.

stands for itself, alone, unique, and whereas he taught the old-timer that there was three times as much money in blooded beef stock, so the farmer has learned that a few dozen head well housed and fed through the winter with the surplus from the farm mean many more dollars' profit than a hundred head allowed to roam and pick, and suffer the exposure of winter, coming in reduced in flesh and weight and requiring heavy feeding to be brought back to marketable shape.

There is no good business policy in running steers on land that is worth \$15 to \$30 an acre, while it might have been profitable when the same land was worth only \$1.

So the big ranches are not only being cut up and put on the market, they are being cut up rapidly, and the school lands, as soon as the leases expire, can no longer be re-taken by the lessees from the State, for there is a man waiting with a paper on every quarter-section, half-section or section, waiting for the moment to arrive when he shall have the longed-for opportunity to buy from the State his rood of land.

Only a few more of these big leases now stand; only a few more years will see the last one expire, and then the requiem song of the big ranch shall be sung.

The work of development and expansion of the Panhandle begun by J. V. Farwell has not lagged since his death, and when history is finally written his name will be enrolled as one of the real empire builders. For it was an empire that he took hold of. An empire in a truly undeveloped state it was that first began to assume shape when he introduced his Polled Angus and Hereford cattle, replacing the native breeds. Standing upon some eminence within his shaded bounds, it must have been with pro-

We see the territory comprised in that grant, once silent, dead, responding not to the call of civilization, to the cry of man for landed homes; we see it now dotted from its northern extremity to its southern with thrifty and enterprising towns and cities. Yet there is nothing of the mushroom variety demonstrated in the foundation, the growth of these towns. Their locations have in every instance been well chosen, and the character of their building has been carried out always with an eye to substantiability, at the same time that beauty and symmetry have not been overlooked. Education for the generations to come is always and first the most carefully guarded and fostered institution. Not a town of 1000 inhabitants that does not have its substantial brick, stone or concrete schoolhouse; indeed, it has often happened that the schoolhouse is the first building erected when a new town is laid out, thus showing that education is uppermost in the mind of the average American citizen. Pride of home is the marked characteristic of our American people, but not second to it in the Panhandle is the pride exhibited in the school buildings belonging to the people. Side by side, coequal in intensity of purpose, is the interest shown in this institution, within whose foundations are laid the hopes of the continuance of the nation.

As instancing the quick yet solid growth of the Panhandle country once it has begun, we will notice the town of Farwell, yet less than three years old, but with more than 1000 inhabitants. This little city, named for the empire builder, is located exactly on the New Mexico-Texas border, in the southwestern corner of the Panhandle. It is a crossing point for two main lines of railroad of the same great system, this advantage

giving it direct connection with all parts of the country. The growth and settlement of the country immediately contiguous to Farwell has been, perhaps, more markedly rapid than any other portion of the Panhandle. Just what particular reason exists for this is not known, aside from the fact that farmers began pouring in there very rapidly, induced doubtless by the beauty of the country, the delightfulness of the climate and the comparative ease with which the land was capable of being tilled, combined with most reasonable prices for the soil.

The settlers around Farwell are distinguished for their thrift and enterprise. Now numbering about 5000 people upon the farms and ranches, all of whom without exception are making for themselves permanent and beautiful homes, improving their lands and taking every marked interest in life present in the older communities, entering with zest and earnest into every form of public and civic enterprise, Farwell is fast being builded into a compact, healthy, virile city, and bids fair to grow at such an astonishing rate that all calculations will be exceeded, and its older and no less ambitious sisters be left behind in the civic Marathon. In these less than three years Farwell boasts of several substantial wholesale houses of different classes of merchandise, a splendidly efficient water-works builded modern along every line, a well-equipped electric-lighting plant, a modern telephone system and every modern convenience. One of the proud boasts of Farwell is its new \$60,000 hotel, but recently completed, and which, it is declared, would do credit in its appointments to a city the size of Chicago. The citizens of Farwell throw out their chests when they "point with pride" to their classic hotel, and boast, with well-founded faith, that not another town of 1000 inhabitants in the United States can claim so handsome, so costly a hostelry.

Yet Farwell is but a fair sample of the Panhandle way.

There are dozens of other towns--never call a Panhandle community a "town" if within its gates--you cannot more seriously insult a resident than by such terminology--

stand the acid test, applied to him by those of the West with whom he is immediately brought in contact.

In plain words, one must be a whole man, heart, mind and soul, to keep up out here.

There is something in this atmosphere, this ozone, that makes men keep up, makes them take on a broad view, grasp things broadly, do things broadly.

When a thing is worth doing at all in the Panhandle it is done on a broad scale, laid on a deep and durable foundation. Hence the progress made in months, whereas years would be required in more complacent circumstances, in balmier climes. The West simply gets behind a man and pushes him forward. If he has not the initial force to stand the rush he is simply brushed out of the way as a weakling and the tide rolls over him. Hence the occasional return to his former haunts of the dissatisfied one.

He has not "made good."

Friona, Bovina, Corlena, Channing, Hartley, Tascosa, Middlewater, Texline, Keity, Dumas, Orofino, Wilcoy, Jarvis, Hansford, Ochiltree, Texoma, Stratford, Nara Visa, Obar, Guymon, Boise City, Texico, Higgins, Claude, Clarendon, Goodnight, Ware, Morton, Conlen, Romero, Rehm, Coldwater, Farwell, Hereford, Canyon City, Seminole, Lubbock and Plainview comprise only a partial list of the new towns from 1000 to 2500 population that have sprung into existence over night, as it were, in the Lower and Upper Panhandle. In scarcely an instance are any of these thriving towns more than 10 years old.

Most of them do not antedate 1901!

Half of them are yet to count their years on the fingers of one hand, while in several instances less than three accounts for the years they have been on the map.

Of the larger towns may be named Wichita Falls, which, though claiming Panhandle sisterhood, does not really belong, being far below and east of the handle bottom. But Wichita Falls, while not so situated geographically as to be classed with the Pan-



A MAIZE FIELD IN THE PANHANDLE, THE PRODUCTS OF WHICH BROUGHT \$50 AN ACRE.

they are all "cities," or aspirants as such—which is, to be sure, a most laudable ambition and not in any sense to be condemned or derided—there are dozens of other towns whose aura of influence in the present and the future is not less potential than is Farwell's. To make use of a pardonable Americanism, they are all "chesty."

Each separate and individual community maintains the keenest, yet the friendliest rivalry with its neighbor that may be. Not one of them that is "slow" or non-progressive. Believing in their country with the faith absolute, the sight of these young, growing, thriving, hustling communities in their struggles for supremacy, their ever determined aspect toward the future, their enjoyment of the present and its many goods, their optimism, their cheerful acceptance and adaptation to the exigencies, the needs of the moment, is an inspiration for the rest of our country; it is a striking object-lesson in patriotism, for no sooner does a newcomer arrive than he becomes a Panhandler per se, and for him earth contains no spot so pure and sweet, so ennobling, so rich in possibilities, so great in potential force for good, so devoid of the bad. He arrives in the Panhandle under difficulties often; misfortune, perhaps, has claimed him for its own; dissatisfaction with conditions as they exist "back in the old State;" possessing a limited capital with which he can accomplish little in the narrow environment by which he has been surrounded, he comes west enamored by the tales of the healthfulness of its climate, the purity of its water, the vastness of its resources, the heartiness of its people, the freedom of its life, determined to "make good."

The lack of failures in the Panhandle is sufficient evidence that the latter qualification is a vital force in the building up of the Panhandle. He nearly always "makes good."

Truth to tell, in this atmosphere of pure ozone, where men are upstanding, honest, forward forces for civic and moral progress, one simply has to make good.

No narrow-gauge methods are allowed, therefore a man must be broad-gauge to

handlers proper, is a notable example of the Western spirit. Let it be remarked in passing that of all the towns mentioned, scarcely one does not possess its commercial club, its board of trade, its chamber of commerce, and each organization is a virile force in the growth and life of the town in which it has its existence. Next to its schoolhouse, the average Panhandle town is proud of and contributes liberally to the support of its commercial organization, and next to the organization of its school board does the Panhandle town take steps to put life into its commercial arteries by organizing all business interests into one mutual body, while older towns with tenfold greater wealth go stumbling along without head or tail commercially.

Wichita Falls is a striking example of the energy spent in town building in the West, for in one year ending last July this modern little city spent out of its coffers more than \$10,000 for publicity work, earning to itself thereby nearly 3000 additional population.

To be mentioned in this class of towns with 5,000 to 10,000 population come Vernon, Memphis, Amarillo, Dalhart, each of which cities sustains a commercial chamber as complete, relatively, as Dallas or Fort Worth, Houston or San Antonio, sending out tons of well edited, neatly printed, reliable and authentic literature every year, while their salaried secretaries and other officers are ever, with restless energy, looking about for new sources of distribution of information, new objective points for possible exploitation; striving for new blood, for new industries, for new enterprises of any legitimate character.

Never satisfied, never content with resting upon their laurels, these men with the red blood of iron in their veins are distinctively town builders, country builders.

They purpose, openly, honorably, to make of their country the greatest in the great State of Texas.

They go about their work methodically, systematically, with detail infinitely, care-

fully planned and infinitely, carefully worked out. So, in totaling up at the end of a year of endeavor, their balances show always an increase on the right side of the rubus ledger.

The Panhandle spirit is contagious, infective, inoculative.

One cannot remain long in the Panhandle, one cannot remain 30 minutes in the company of a Panhandle citizen without imbibing some thing of that determined spirit.

For (again to make use of an Americanism), the Panhandle has "the goods" and the Panhandle is sure of itself. Time was when, in the early days of the "old-timer"—one soon learns that to be an "old-timer" one must have been a resident of the Panhandle at least seven or eight years ago—things were not sure.



THE "LANDLESS MAN" ENTERS THE "MANLESS LAND."

Men came and went; nothing was then felt to be permanent.

Peopling the Panhandle was largely in the nature of an experiment, as an agrostologist, not sure of the results of a new method, a new variety of seed, tries out only a small plat, keeping record of obtained results.

Thus has the "old-timer" kept record.

His first timorous trying-out of the soil have proved successful. Returns, at first hoped for with patient waiting, have turned out to be gloriously greater than even his brightest dreams might have pictured. Soil that had hitherto never been known to sprout other vegetation than "mesquite" or "curly buffalo grass" proved to be productive of almost anything that grows in the temperate zone.

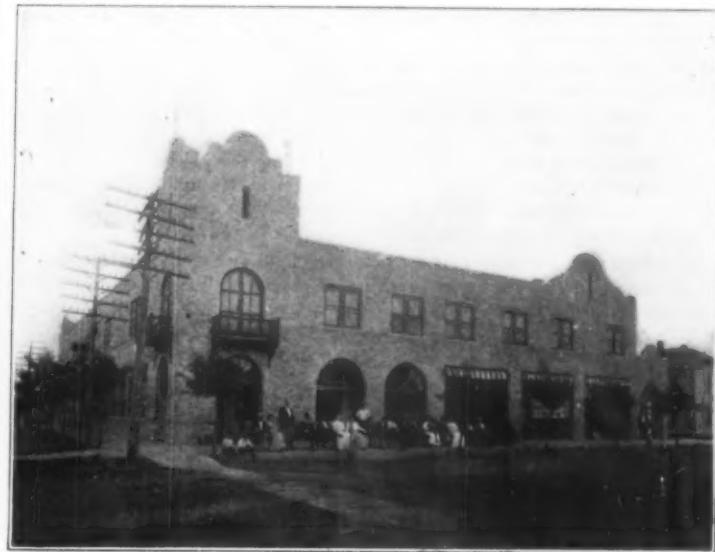
Patiently, ploddingly, on a widely diversified and small scale those experiments were

counties comprising the upper and lower tier. A conservative estimate based on authentic figures convinces that not more than 1 per cent. of the tillable land in the counties mentioned is today in cultivation, no account being taken of the late comers who have not yet prepared for a full crop. The land in the Panhandle bears a unique distinction as compared with other lands in closely-related sections; it is nearly all of the same character over the entire area of hundreds of miles.

Thus we have a safe and sound basis for calculation.

Take the one county of Dallam for convenience: Dallam county, it is calculated by the Government geologists, has more than 90 per cent. of its surface available as cultivable land, ready at once for the plow. There are no stumps, no "new ground" to be cleared away; it is just as nature made it, high, level or gently rolling land.

Taking the experts' figures for calculation, here we have a county about 50 miles



HERE A BRANDING-PEN STOOD SEVEN YEARS AGO.

east by west, by 30 miles north by south, containing no less than 1500 square miles, these containing 960,000 acres.

Taking the experts' figures again, we have left out of this vast body of good farm soil 864,000 acres subject to the plow. Reducing the lowest average wheat production by one-sixth and calculating from an average of 15 bushels to the acre, Dallam county can produce more than 12,000,000 bushels of wheat. But perhaps those figures are too high, one will say! Very well, let us reduce them. Assuming that the experts are wrong in their statements, we will say that only 75 per cent. of the 960,000 acres is tillable. This gives us 720,000 arable acres. Let us go further and reduce the average wheat production to nearly half of the known average and take 10 bushels for our figure, and here we see that Dallam county can produce 7,200,000 bushels of good



THE 1910 PANHANDLE COWBOY CARRIES NO T. A. ".45."

carried on. Today the products of the Panhandle in flora and fauna surpass the wildest imaginings even of the first empire founder.

With less than 1 per cent. of its tillable land, in some counties, in cultivation, with not more than 10 per cent. of the tillable land in cultivation in a majority of other of the Panhandle counties, the possibilities—better, the sure outcome of the Panhandle as an agricultural storehouse and granary to be added to the wealth of the nation staggers and halts calculation.

The average wheat production in the counties of the Upper Panhandle, comprising 20 in number, has been for the eight years previous to 1900 from 18 to 40 bushels to the acre, the latter production, of course, running up in those years when wheat was produced under the more favorable conditions. It is carefully estimated today that this year's crop of Texas red wheat in three counties, Hansford, Hutchinson and Ochiltree, alone will exceed 2,000,000 bushels. This does not take into account the counties of Dallam, Hartley, Sherman, Moore, Deaf Smith, Potter, Armstrong, Donley and other



MELONS YIELDING \$100 TO THE ACRE.

wheat, or about 7,000,000 bushels more than she does produce with her less than 1 per cent. of cultivable land under the plow.

There are 19 other counties in the Panhandle as large or nearly as large or larger than Dallam. The average holds good all through the 20. Calculating from the basis of 10 bushels to the acre, we readily see that the Upper Panhandle can easily produce about 170,000,000 bushels of wheat if all the cultivable land were under the plow. This is one-fifth the entire yield in the United States, and with this addition to the wheat bins of America the shortage in breadstuffs looked for by Mr. James J. Hill would be staved off a few years at least. The day is approaching faster and ever faster when these figures will be a realized fact.

Yet, little as it is known, it has been proved over and over again that the Panhandle wheat crop is the least profitable of all the stuffs to which this marvelous soil is adapted. Take milo-maize as an example, or kaffir corn.

Both of these plants were introduced into this country about 35 years ago, if the

writer's memory has served him no scurvy trick, and but little was known about them at that time. The Government, even, was not sure that either would prove to be a profitable or practical crop. The writer recalls that some little was planted of both varieties of seed on a plantation where he was reared. The crop matured, and so curious did it seem that farmers traveled for miles around to see the stuff that looked so queer. No one knew what to do with it until one day it was noticed the chickens on the plantation were making their homes under the plants and were feeding upon it to the neglect of the plentiful supply of Indian corn with which they were accustomed to be fed. Some inquisitive person tried a little of it with hogs and was amazed to see the porkers leave their corn trough and devour every grain of the milo. A similar attempt with horses and cattle brought the same action on the part of the latter. So today we see this prolific feed plant being grown in the Panhandle almost to the exclusion of Indian corn, while, with its feeding value in protein but 5 per cent. less than Indian corn, it puts nearly as much weight on a hog or a steer, pound for pound, as the same bulk of Indian corn will do.

We see many hundreds of steers every year on exhibition at the various stock shows held in Texas cities, to which an ear of Indian corn is a total stranger. Tom W. Turner, who came to the Panhandle from Missouri eight years ago, exhibited steers at the Dallam county fair this year that weighed 1850 pounds, and that had never tasted any other feed than milo or kaffir. In passing, it is not out of place to interpolate that Mr. Turner has made eight successive good crops in the Panhandle, and is now in splendid circumstances, whereas when he came he was a comparatively poor man. He has made a fortune out of the Panhandle soil.

The average yield year from year is 60 bushels of milo or kaffir to the acre, and the lowest price at which it has ever sold has been 65 cents a bushel. As both plants are among the most easily cultivated of all plants about which anything is known, requiring very little attention and only one or two good plowings after getting a start, it can readily be seen that they constitute the most profitable crop grown in the region of the Canadian River. An instance is recalled to mind in this connection: Near one of the Upper Panhandle towns is a colony of farmers known as the "Indiana colony," all of them being from some common point in that State. This summer was unusually dry, and, led to understand from the land boomer's talk when the land was sold that there never was a shortage of rainfall in the Panhandle through the growing months, and discovering this to be a "mirage," seeing his crop pass through a dry June and undergo a hot wind that seemed to scorch it up, one of the Indians pulled up stakes and hiked for the "old State," leaving his crop of 80 acres of milo to get along the best it might without him. The crop had received but one working, and when the farmer left it he told your correspondent it "seemed to him the stuff was actually growing back in the ground." What was the sequel? Along in early September a fine rain came, the weather was still warm, and one day the farmer was astonished to receive a letter from one of his neighbors informing him that "if he wanted to get anything off his crop he had better come down and attend to it, for the rest of us are all too busy to look after it for you." The man scarcely dared believe the message, considering it to be a hoax, but finally decided to return.

He was amazed, astounded to find a fairly good crop on the ground, and he pitched in with characteristic Indiana energy and began harvesting. The 80-acre crop sold for 61 cents per bushel net, bringing him just \$1220 dollars, an average of \$15.25 an acre in money and an average of 25 bushels of grain to the acre.

The price paid for the land by the Indiana man was \$20 an acre!

Then there is broom-corn. One must take into consideration the fact that broom-corn was a practical failure this year nearly all over the United States where the plant is usually grown, and this is taken to account for the fact that farmers in the Oklahoma Panhandle—Texas, Cimarron and Beaver counties, constituting the once famous—or infamous—"bad lands strip"—where dwelt only highwaymen, horse and cattle thieves and outlaws 25 years ago—this year sold their crops, those of them who had not contracted beforehand, for as high as \$300 a ton. Yet one should not take broom-corn as a heavy crop. A few acres well tilled pays handsomely. A half ton to the acre is the average. Ordinarily it sells for \$80 to \$90 a ton.

Only within the past two years have any of the Panhandle farmers begun to raise alfalfa, but those who have tried it find it yields exceedingly well. I saw on exhibition this year at the Texas State Fair at Dallas samples of alfalfa planted the first day of July in Ochiltree county and dug up the 21st day of September. The roots were longer than the plant above ground, and the plant was more than 18 inches long. The farmer who planted it in July had five acres planted last year, from which he had cut four times this year, yielding an average of a ton or more to the acre. There are possibly not more than a dozen or two alfalfa fields today in the Upper Panhandle.

This is additional evidence that the Panhandle farmer really does not know yet what his soil will raise for him.

An Irish potato field of five acres, of the Early Tennessee Triumph variety, maturing in October, yielded a net profit of \$80 the acre. The ground upon which they were raised had never been in cultivation before, being what is called "sod;" that is, in its natural state and under the plow for the first time.

Hartley and Dallam counties sent watermelons to the same fair that weighed 105 pounds. The yield per acre is tremendous, the Panhandle soil seeming to possess a peculiar adaptability for the production of the toothsome fruit. Just what the yield averages no one seems to know. No record has been kept, and no explicit figures can be given save in an instance where one farmer claims to have netted \$100 on one acre of the luscious "Georgia Rattlesnake" variety.

But in putting down on paper what the Panhandle soil will do or not do in watermelons, one must not forget the delicious Rockyford cantaloupe. There is nothing equals it, nothing excels it. Numerous specific figures are at hand, furnished me by reliable farmers and shippers of the fruit in carload lots. Just two, taken at random from a bunch of several sheets, will serve to illustrate what the Rockyford cantaloupe does here without irrigation, without fertilization:

W. A. Snell owns a large ranch near Dalhart, and this year his net profits from five acres in the Rockyford was \$737.50, or exactly \$147.50 an acre. The crop was sold f. o. b. at the shipping point.

W. D. Wagner, Mayor of Dalhart, banked a net profit of \$556.70 off four and one-half acres, besides a shipment of \$250 which was lost in transit, receiving \$2 a crate in lots of 45 to the crate. He has in his possession a letter from an official of the Fort Worth & Denver City Railroad and from one of the leading hotel proprietors in Fort

Worth, asserting their belief that the Panhandle cantaloupe had no equal in the market. The hotel man also added that his guests "raised Cain" with him when his daily shipment failed to arrive in time for breakfast.

These are only some of the profitable crops that will eventually people this whole Panhandle country with a denser population than any county in Illinois.

And now we have come to that crop, but two years since it was begun to be experimented with systematically, that no doubt will make of the Upper Panhandle fully as great a section of the United States, both industrially and agriculturally, as Eastern Colorado—

The sugar beet?

In 1908 a few men, urged on by the persistent efforts of B. F. Williams, who has come to be known in the Panhandle as the "sugar-beet father," procured 100 pounds of sugar-beet seed from the Government and induced a few farmers to plant a half-dozen small plots. The plots yielded a good crop, but no record was kept of the quantity to the acre. There were a number of samples sent to different laboratories, and the tests showed that the saccharine content averaged 22.5 per cent. This year 15 farmers organized systematically and each put in a quarter-acre plat, cultivating them under Government supervision as directed by the manager of the Dalhart substation. On eight of the plots the yields ran from 10 to 15 tons to the acre. They were grown without irrigation, without fertilization, and some of the plots were planted on sod ground. As sugar beets sell to the factories at prices ranging from \$4.50 to \$5 a ton, it may be grasped without difficulty the possibilities in sugar-beet culture in the Panhandle region.

Two landowners are preparing to put in small irrigation plants next year under which sugar beets will be grown to test the capacity of the soil for production. As the tonnage in Colorado under irrigation runs from 25 to 30 to the acre, all progressive farmers will await the results under irrigation in the Panhandle with great interest.

Mr. Williams has been in correspondence with one of the larger beet-sugar factories in Colorado, and the president of the concern assures Mr. Williams that as soon as the sugar-beet experiments have reached a stage where they can no longer be regarded as experiments, his company will purchase 2000 acres of the soil of the Upper Panhandle, put them in sugar beets and erect near some good shipping point a \$200,000 factory.

The location of the factory, in the event it is built, will lie between Dalhart and Amarillo.

Of still more potency as a factor in the building up of the Panhandle is the business of hog-raising. There are no "razor backs" grown in the Panhandle. The breeds include the Tamworths, Poland Chinas, Berkshires (the latter is the standard) and Durocs. There has never been a case of cholera, and since the United States bureau has established beyond doubt that it has discovered a sure preventive for the disease that has for so many years been a bugbear to the hog-raiser, more and more farmers every year are going into the business. I have seen several carloads of the Tamworths leave for Fort Worth that averaged 500 pounds each, and in the lot were many that weighed more than 600 pounds. It may be said that here is a regular hog heaven, and the profits in the business are enormous.

In this necessarily limited article it is impossible to cite every kind of crop that is profitable here. I have touched only the leading features, yet twice as much as here written could be put down and be still incomplete. For instance, I have said nothing about fruits, yet the Panhandle apple, the "Arkansas Black," took second prize at the State Fair this year. To tell the simple truth, here is a tremendous section of our country about which 90 per cent. of the people of the United States know virtually nothing. At the recent Land and Irrigation Exposition, held in the Coliseum at Chicago, beginning November 20, the Panhandle was the only portion of Texas, aside from one or two small irrigated sections, that sent an exhibit, and the thousands of people who visited the exposition and saw the exhibit of products from the Texas Panhandle displayed the most marvelous interest in the land, and at the same time a thorough, marked ignorance as to even the section of country represented by the exhibit, many declaring they had supposed Texas was the home of outlaws. Yet here is a land silently waiting the hand of the plowman to transform it into a garden literally flowing with milk and honey! No surer evidence of this statement can be given than to point out the fact that the millers, both of Chicago and Fort Worth, gladly pay a premium of 5 to 10 cents a bushel above the market price for Panhandle wheat.

There must be a reason!

Further evidence is given in the fact that scarcely a town of 500 inhabitants is without its modern mill and elevator.

This article would not be rounded out without touching upon the climate. Here is found a California climate in winter, a Colorado climate in summer.

Let not the serious reader infer from this that every day in winter is as balmy as a day on the southern coast of California, or that it is as cool as the summit of Pike's Peak in summer. Such is not the case.

When it is said that the Panhandle climate rivals California's or Colorado's, it is meant that it does so in averages. Let it not be supposed that it never snows in the Panhandle, or that it never freezes; let not the seeker after information come to the belief that every summer day in the Panhandle brings only refreshing coolness. It is not so. The snow flies here, and piles deep. Two feet and even three feet deep it has been. The zero mark is quite frequently reached, and the ground does sometimes freeze to the depth of an inch or an inch and a half. The wheat farmer knows what plentiful snows in winter mean the following year when he harvests his crop. And when it is told that only one night this past summer did one not need to sleep under cover in the Panhandle one is not overstating the fact.

To tell the absolute truth, as one enthusiastic Panhandler remarked to me soon after my first coming here: "One has to lie to tell the truth about the Texas Panhandle."

Although most of the Panhandle lies from 3000 to 5000 feet above sea-level, and the snow blizzard is not unknown, there is not a month in the year when the farmer may not run his plows, and the oftener he runs them, the deeper in the ground he runs them, the better and bigger are his returns.

A notable proof of this latter statement is the case of the farmer whose Irish potato crop has been previously mentioned, from five acres of which was netted \$80 an acre. The five acres thus producing was plowed in winter to the depth of 10½ inches. Another five acres lying alongside the deeply-plowed land was turned barely five inches from the surface, and the outturn was much less than the other, only producing \$50 to the acre. Instances such as this could be multiplied ad infinitum.

For many years the cowman told his acquaintances and friends that to cross the

Panhandle a "hazard would have to carry his water supply." Yet all the while underneath the surface of the land lay a supply of water, the purest in the world (pronounced by every laboratory to which samples have been sent as being 98 per cent. pure) and inexhaustible in quantity.

Experts and geologists have declared time and again that the Panhandle water supply is derived directly from the melting snows of the Rocky Mountains, from which the upper State line is distant only about 140 miles. The water source thus defined, it is easy to understand both its purity and its great quantity, as well as why the greatest rainfall occurs through the six growing months, April, May, June, July, August and September, the average, according to the Federal Government's reports for the past 14 years, showing 2.93 inches a month for the six months, giving ample precipitation

it weighed out six tons and a little better to the acre. I sold it in the nearest market, Dalhart, for \$8 a ton, and the crop brought me \$50 an acre. I had 80 acres in cultivation the first year, and the returns were \$1300 from the 80. A small portion of this was used for pasture. My returns the second year were about \$1500 from the same area. Intelligent farming will pay here as successfully as in any section I know. One thing that makes this country surer than any new country I have ever come in contact with is that there is no end to the diversification of crops one may raise here. One does not depend on just one or two crops for a money return; nor even on a half-dozen; one may plant and produce from more than a dozen good paying crops in the same season. You can raise anything from garden, fruit and truck products to the general staple farm products. They are raised cheaply and economically.



CUTTING A PANHANDLE FURROW TWO SECTIONS LONG.

for all growing crops. This does not take into account the tremendous snows that blanket the earth for many days in the course of the winter months, and from which are derived the Panhandle's uniformly good wheat production.

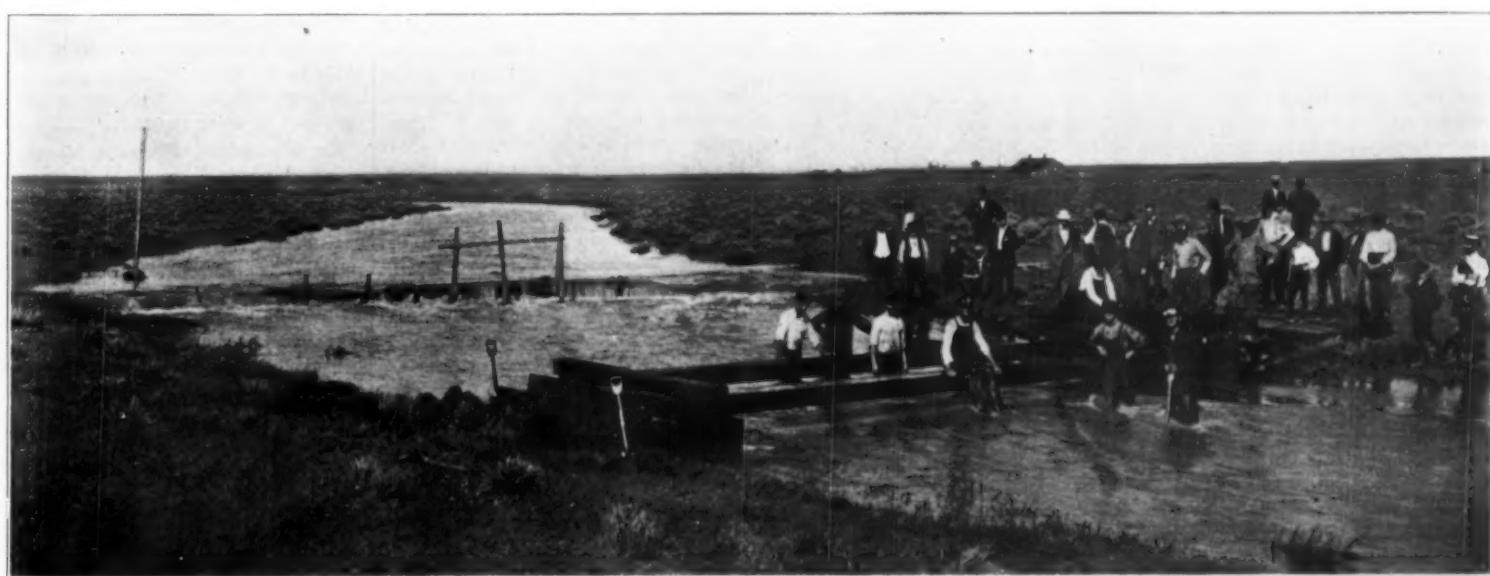
Never a well bored has ever proved to be a "dusty," as the well drillers term a dry well. And hundreds, possibly thousands have been bored, for the horizon on whatever side one turns is bounded by a windmill, and one travels hundreds of miles without getting out of sight of them.

Geologists further declare that the water stream, reservoir or underground lake is of a uniform depth of 40 feet wherever struck, assuring an inexhaustible supply for small irrigation plants whenever the time may come that the scientific methods of the irrigationist may be put into use. While some are inclined to scoff at the advancement

"The climate here is number one in every respect. The water cannot be excelled. It is as good as can be asked for. Pure and sweet.

"The soil, when taken care of and kept in cultivable shape and tilth, is easily handled. Taking this with the lay of the land into consideration, it is positively a pleasure to farm. My advice to all who can is, if you are looking for a new home, and if you have the little ready money that is necessary to give one a start; if you want to find a home where you can settle down, make money, raise a healthy and happy family, be a good citizen and be at peace with all the world, come to the Texas Panhandle and suffer no disappointment."

It is noticeable the enthusiastic note that pervades Mr. Delp's statement. This is but characteristic of the Panhandler, be he an old or new comer, which has been noted



WATER FOR A THOUSAND IRRIGATED FARMS AT FARWELL IN THE LOWER PANHANDLE.

of the irrigation idea, the man who thinks, studies, plans and evolves is preparing to put his ideas into execution. Already irrigation meetings are being held in the Oklahoma Panhandle strip, organizations are being effected, systems of irrigation are being studied and plans made along concrete lines to put the waters of the earth underneath to work making more and surer wealth.

The Panhandler has come here to stay, and he proposes to utilize every good gift that nature has laid by his hand.

A well-known farmer from Illinois, Mr. Charles W. Delp, makes a statement, and is only one of scores which have been given me as proof that intelligent farming pays as handsome returns in the Texas Panhandle as in the much higher-priced lands of the older States, where the poor man has little chance to acquire a farm on account of those high prices. Mr. Delp's statement was picked at random from a number:

"I came here from Illinois in March, 1907, and bought my present home, one mile east of Dalhart. I commenced farming in April and had financial returns in the way of garden and milk products in June, and had returns every month since. In August of that year I sold \$165 worth of products. I raised corn, kaffir corn, maize and millet the first year, and all successfully. My kaffir corn was cut off with a corn binder, and

heretofore in this article. It is thus the Panhandle is being built; it is this class of men who are stirring its soil and making many blades of grass grow where naught but sod grew before.

The MANUFACTURERS' RECORD's correspondent is not given to making prophecies, but hazards a belief: In 10 years from now, aye, in five years from now, or when the Panama Canal is finished, the Texas Panhandle will be as thickly populated as any section of any of the old States. Agriculture will constitute nine-tenths of its sinews of trade. Here the scientific farmer is coming into his own. Here will arise giant packing-houses preparing the beeswax grown in thousands of prosperous barnyards for market. Here will arise the smoke from a dozen or more big beet-sugar factories, from scores of flouring mills. The surface of the Panhandle will be criss-crossed with new lines of steel. On every eighth and sixteenth section a well-tilled farm will yield bounteous returns from the soil and make light the heart of the husbandman.

A million people will find homely comfort and the Stars and Stripes will wave over a happy, contented, prosperous land, as patriotic as any, as brave as any, as intelligent as any, as moral as any.

Sing praises to Argonaut Farwell and the great land he discovered!

OKLAHOMA CITY BUILDING.

About \$4,000,000 Worth in Progress in the Business Section.

[Special Cor. Manufacturers' Record.]
Oklahoma City, Okla., February 19.

A conservative estimate of the buildings either under construction or contemplated in the business district of this city alone places the amount at \$4,000,000.

During the past week announcement has been made of the proposed construction of two new 10-story buildings in this district, each of these costing \$200,000. One will be built by C. E. Zahn of Columbus, O., upon the old postoffice site on North Harvey street, between Main street and Grand avenue. The other will be constructed by Goodholm & Sparrow on the southwest corner of Grand avenue and Harvey street, and will be occupied exclusively as a department store by Miller Bros.

Among the buildings nearing completion in the city is the new Baum building, at Grand and Robinson, to be occupied by March 1. The concrete work of this five-story building is completed and the outside stone work completed to the fourth story. Finishers are engaged on the lower floors of the inside, and will complete their work there within the next 10 days.

The Colcord building on the opposite corner has the concrete work completed to the tenth floor, and the other four stories will be finished in a few days. Stone and brick work will begin in a short time.

The 12-story Herskowitz office building, at the corner of Broadway and Grand, is well under way with the foundation. Immediately east of the Herskowitz building will begin in a short time the construction of a seven-story hotel and office building to cost \$150,000, and when this building is complete the entire block from Broadway and Main street south to Grand avenue will be a skyscraper block, the height ranging from 7 to 14 stories.

On Main street, between Harvey and Hudson, Owen & Welsh are nearing to completion what will be a nine-story store building constructed of reinforced concrete. This building is 50x140 feet, and is equipped with electric elevators and every modern convenience and safety provision.

On the northeast corner of Main and Harvey streets, I. M. Putnam, one of the wealthiest citizens, will soon begin the erection of 12-story office building to cost approximately \$250,000, and when complete will be one of the handsomest business blocks in the city.

After 40 days of work the big steel shell of the State National Bank, a 12-story building at the northwest corner of Main and Robinson, is nearing completion. Concrete floors have been laid to the tenth floor, and the brick and stone work is well under way to the fourth floor. This building will be ready to occupy May 1.

N. F. Gates of Oklahoma City and Chas. N. Bassett of El Paso, Tex., will construct a skyscraper at Main and Broadway, where the Night and Day Bank is located at present. This building will also be 12 stories, and cost \$250,000.

Kerfoot, Miller & Co. will within the next month begin the construction of a large mercantile building on West 1st street, which they will occupy. The Clasen Company and the Oklahoma Railway Co. are clearing the ground to make ready for the erection of a \$300,000 building on the northwest corner of Grand and Harvey, to be known as the Terminal Building, and will be used as a terminal station for the various interurban and traction lines operating in the city. It will be 12 stories, and when completed will be one of the most up-to-date buildings in the West.

The eight-story Insurance Building on North Broadway, between Main and 1st streets, is about complete, and the tenants



BIRMINGHAM CHAMBER OF COMMERCE BUILDING.

The new home of the Chamber of Commerce of Birmingham, Ala.; cost, with the lot, \$290,000. It is seven stories high, 100x100 feet, and of reinforced concrete construction. In the basement is a machinery exhibit. The second floor is occupied by the business office and auditorium, and on the seventh floor is an exhibit of agricultural, mineral and manufacturing products.

for the lower floors are already moving in. This building is a concrete structure, and cost approximately \$150,000.

Building records in the commissioner's office at the city hall show that an unusually large number of residences in the city are under construction. Wholesale houses and industrial plants, including the \$10,000,000 to be expended in the construction of two big packing plants, have directed widespread attention to Oklahoma City, a city which, though but 20 years old, already has a population of 70,000.

GEORGE SAUNDERS.

The Birmingham Iron Market.

[Special Cor. Manufacturers' Record.]
Birmingham, Ala., February 21.

During the close of last week there was considerable excitement at the announcement from some source that one of the large buyers of pig-iron had placed an order for 15,000 to 20,000 tons of iron for delivery over second and third quarters at \$13 to \$13.50 per ton at the furnace. Up to the present time headquarters of the company supposed to have given the order have not confirmed, but rather denied the rumor. The leading furnace interests called upon have denied receiving such inquiry, and still maintain that \$14 per ton at the furnace is their established base price. There have been, however, several sales made of resale iron, and it is probable that in a number of instances \$13.50 per ton was the price. Certain high-phosphorus iron, to considerable extent, is rather looked upon as necessarily carrying some differential in price, and, of course, where phosphorus cuts no particular figure in one's mixture such iron finds a ready market at a concession. The same applies to variation in silicon from regular standard No. 2 foundry iron. While these peculiarities in the elements are never mentioned in connection with sales, nevertheless they obtain and have their bearing on the market price of standard iron. Therefore, it may be said that for standard Ala-

bama iron the furnace companies today are asking \$14 per ton base, and resale iron can be had for \$13.50 to \$14. Under these conditions there is no established market, and probably will not be until all the warrant iron shall have been disposed of, or so nearly so that it will not hang so heavily over the heads of buyers, thereby relieving them of any uneasiness that something is "liable to drop." There seems to have been another aspect added to the political situation, and in a measure things have somewhat purged themselves. At least, some better feeling in that direction prevails down here. The Southern charcoal iron market is firm at \$22 to \$22.50 per ton at the furnace.

No improvement in the way of bookings of round tonnage lots of cast-iron pipe is reported by local producers, but the demand for small lots continues fairly good. Sufficient orders are in hand to insure full time for several months ahead; at least enough to tide the manufacturers over to better weather conditions, at which time good business is looked for. It is understood that the city of Chicago closed contract the past week for 6000 tons. Following prices are quoted per net ton f. o. b. cars here: Four-inch, \$25; 6, 8 and 10-inch, \$23; 12-inch and over, average of \$22, with \$1 a ton extra for gaspipe; fittings, \$60 per net ton f. o. b. cars at the works.

There is considerable scrap iron being piled on the yards of dealers, they preferring to stock same and not meet the views of users at this time. It is reported that quite a little old material could be booked at 50 to 75 cents per ton reduction in present prices. Dealers report only fair business, and lay much stress on an advance, following better feeling in pig-iron circles. Following prices per gross ton f. o. b. cars here are quoted:

Old iron axles, \$20 to \$20.50.
Old iron rails, \$15.75 to \$16.25.
Old steel axles, \$17.75 to \$18.25.
No. 1 railroad wrought, \$14 to \$14.50.

No. 2 railroad wrought, \$12 to \$12.50.
Dealers' wrought, \$12 to \$12.50.
Old steel rails, \$12.50 to \$13.
No. 1 machinery, \$12.50 to \$13.
No. 1 steel, \$13 to \$13.50.
Old standard car wheels, \$13.75 to \$14.25.

Light castings, stove plate, \$9.75 to \$10.25.
Cast borings, \$6 to \$6.25.

The open-hearth furnaces of the Southern Iron & Steel Co. at Alabama City are being warmed, preparatory to being put in operation in order to stock material for the rod, wire and nail mill, which, according to present plans, will be ready by the first of April.

Mr. J. S. Parsons of Bluffton, Ala., has been appointed trustee of the old Weller Rolling Mill & Forge Co. at Gadsden. Mr. Parsons has intimated that there is a bare possibility of the plant being put in operation in the near future. It is considered a good plant for the manufacture of bar iron, concrete bars and light rail.

FOR INGOT IRON PRODUCTS.

Three Million Dollars for New Steel Plant Contracts.

[Special Cor. Manufacturers' Record.]
Middletown, O., February 21.

The American Rolling Mill Co. here has placed the greater part of its contracts for its new steel plant, where it expects to manufacture American ingot iron products exclusively. The contracts already placed approximate about \$3,000,000.

The grading contract was secured by Jones Bros. of Columbus and Cincinnati, Ohio.

The contract for structural steel for buildings, involving about 5500 tons, was placed with the American Bridge Co.

The Wisconsin Engine Co. of Corliss, Wis., secured the contract for 48x60-inch simple Corliss engine.

The blooming mill engine will be furnished by the Mesta Machine Co. of Pittsburgh, and will be a 55x60-inch tandem compound reversing engine.

The Westinghouse Electric & Manufacturing Co. secured the contract for the entire electrical power equipment, consisting of two 1500-kilowatt low-pressure turbine engines, three-phase, 25-cycle, 2400 volts, and one high-pressure engine, three-phase, 25-cycle, 2400 volts, and also two 750-kilowatt rotary converters and necessary transformers and full equipment. The low-pressure turbine engine will be operated by exhaust steam from the engines which will drive the blooming and billet mills, thus effecting a large saving in fuel.

The contract for the entire blooming mill has been placed with the United Engineering & Foundry Co. of Pittsburgh. This contract includes a 40-inch blooming mill of important design, together with the necessary equipment of shears, tables, etc., and a 24-inch special sheet bar and billet mill, with tables and accessory machines. This equipment will be used for making sheet bars, slabs and billets.

The contract for the hot and cold mills has been placed with the National Roll & Foundry Co., Avonmore, Pa.

The American Rolling Mill Co. hopes to have this new plant in operation by January 1, 1911.

Cotton Machinery for Mexico.

Roy G. Lane, 104 Calle Libertad, Chihuahua, Mexico, writes the MANUFACTURERS' RECORD:

"I will be pleased to receive catalogues and descriptive matter for the various machinery used in connection with the planting, harvesting and treating of cotton."

WANT INFORMATION ABOUT THE SOUTH.

From letters of inquiry about the South received by the MANUFACTURERS' RECORD the following extracts are made in order that business organizations, railroads and others may get in communication with these people or send them literature about different communities:

G. E. Fisler, Wade, N. C., desires to find a tract of cedar, red or white, or juniper, somewhere in the South.

J. G. Burnham, 206 Courthouse, Syracuse, N. Y., is anxious to find a place in Southern Virginia or North Carolina, near some good city of upward of 5000 population, where it is absolutely certain that alfalfa will grow. Mr. Burnham writes:

"My purpose is to grow hogs and poultry, and I want the city not so much for a market as for a place for gathering waste products for fodder and fertilizer. Have had experience in this business, and can make it go, but must have a warmer climate."

A. I. Kendel, Box 424, Alamosa, Col., writes:

"I have become much interested in the Carolinas, more especially that section of those States which would afford the most desirable climate and market facilities for the raising and disposing of poultry products. The reports concerning the rapid development and advancement of the city of Charlotte, N. C., have particularly attracted my attention. Therefore, I should consider it a special favor if you would advise me of the possibilities and advantages of the above-mentioned industry at that place. I should like to know something of the winter and summer market; something of the competition, the population and the accessibility of other cities by ready and rapid means from the above-named city. Information as to any other desirable locations for a chicken ranch, within your knowledge, in the Southern States shall be gladly and thankfully received by me."

L. A. Prouty, principal of Locust Dale Academy, Locust Dale, Va., seeks information regarding business opportunities in the South.

G. R. Lipscomb, Parsons, W. Va., who writes that he has had two years' experience as a scaler of logs, seeks employment with some lumber company in Florida or Georgia.

Herbert Martin, care of Estberg Sons, Waukesha, Wis., desires information about the irrigated section of Texas where he could have a small farm and be able to follow his practice as an optician. Especially desires a dry section.

W. H. Saunders, 169 Courtland street, Providence, R. I., desires information about business openings for young men. Experience in salesmanship and stenography.

Mrs. L. B. Hefner, 320 Buckhannan street, Clarksburg, W. Va., desires information regarding the South as a place of residence and where there will be a good opening for her husband who is in the insurance business.

Clarence A. Phillips and Benjamin J. Klein of Henry, Ill., write:

"Are you able to give information of the South? We are to be high-school graduates in June, and wish to know about new enterprises or opportunities for young men in the South."

R. M. Reynolds, Lardsburg, New Mexico, seeks general information about the South, especially Florida.

John B. Rogers, Jr., Box 456, Warwick, N. Y., likewise desires information especially about Florida, though he desires to know about other parts of the South.

S. Peregrine, Linden, Wis., writes:

"Please send me information of South Georgia, South or North Carolina. If a Northern man could live there I want to invest in some business, furniture or hardware."

J. S. Harrold of Cocoanut Grove, Fla., wants information about Matthews county, Virginia, and likewise particulars about other attractive localities in the South.

W. Y. Moore, Bellows Falls, Vt., seeks information about the South, with special reference to opportunities in the mechanical engineering line or in the steel industry.

H. M. Bryan, Fayette, Mo., seeks information as to Florida, especially as to the climate of different sections of the State and business opportunities of different kinds.

Warren, Gzowski & Co., 25 Broad street, New York, seek information in regard to Kentucky.

Horace H. Fritz, 713 Walnut street, Philadelphia, Pa., writing for a client who cannot continue to live in Chicago, desires to exchange a Chicago apartment-house for cotton land.

H. H. Branchard, 13 Elm street, Rutland, Vt., writes:

"A few weeks ago you very kindly answered an inquiry of mine relating to farm and timber lands in Florida, Alabama and Louisiana. Among others you referred me to the Commissioner of Immigration of Louisiana. He sent us a very valuable map, pamphlets, etc., but we have written him twice since for more information on certain points and have received no answer, although our last letter was sent three weeks ago. I am acting in this matter for several parties of considerable means who wish to invest in land in the South."

"Can you tell me if we can purchase timber land (pine preferred) in Louisiana in tracts of 5000 acres and upward, that after the lumber is taken off, will be suitable for agricultural and grazing purposes? What will be the lowest cash price of same? We would not mind if there was included in this a few hundred acres of prairie land."

"The parties I am acting for wish to locate a business that will be permanent, which is my reason for asking for land that will be of value after the timber is cut off."

In a Cattle Country.

R. H. Hamilton, cashier Nicholas County Bank, Summersville, W. Va., writes to the MANUFACTURERS' RECORD:

"The financial condition of the farmers in this county is better than it has been in a long while, and they, as a rule, are not in debt to amount to anything. This is due to the high price that cattle have been bringing in the past few years. This is a cattle-raising section. Our business is made up principally of farmers' accounts, and it is double now what it was five years ago. Our farmers, we think, will not make investments out of their immediate section, but they are bent on bank stock. They will buy anything that looks like bank stock. Farm lands are constantly advancing in this section. Lands have increased, I would say, 25 per cent. in value. There is a good deal of oil land being leased in this section at this time, and there are drills running about 10 miles north of us, with the usual oil excitement."

The latest issue of the Southern Home-seeker and Investors' Guide, published quarterly by the Norfolk & Western Railroad Co. at Roanoke, Va., contains many striking illustrations of the agricultural and manufacturing possibilities of the sections of Virginia traversed by the Norfolk & Western Railway.

CEMENT AND CONCRETE IN OKLAHOMA

[Special Correspondence Manufacturers' Record.]

Tulsa, Okla., February 19.

The cement age dawned, undoubtedly, when the Pyramids were built. After their completion the art seems to have been lost, and, up to within comparatively a few years, it remained in innocuous desuetude.

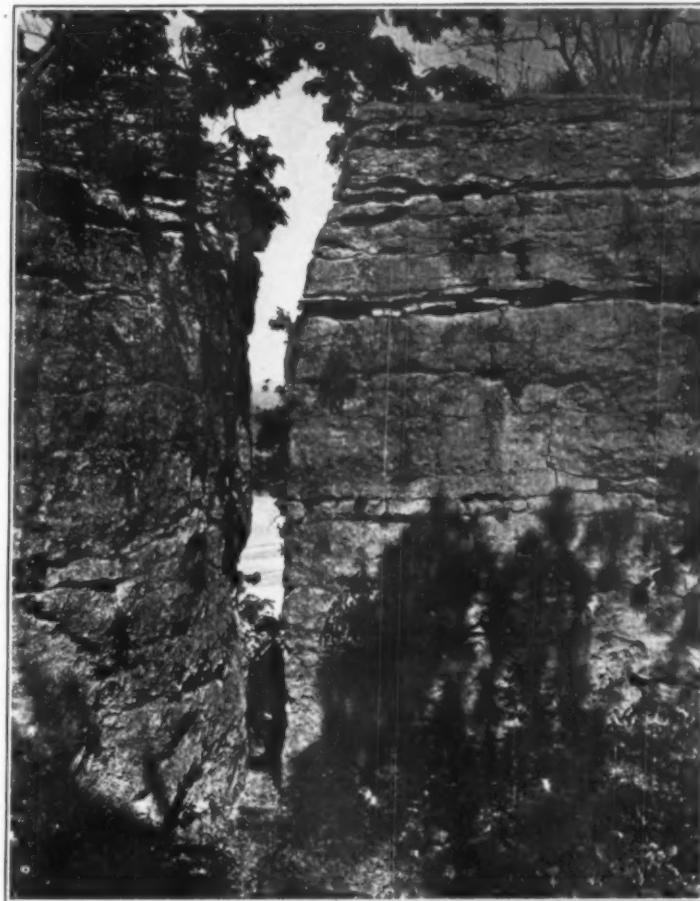
Judging from the rapid advance now being made in the manufacture and use of cement in all kinds of construction work it will not be many years until we shall be in the very midst of a new cement age—this time an age come to stay as long as time itself shall make a record. In this connection it would also seem that the Great Architect of the Universe held back the rediscovery of cement until such time as the materials out of which it is made should be uncovered, in immediate conjunction, in unlimited quantities. The opening up of Oklahoma and Indian Ter-

rets, walls, moats, drawbridges, revetments, and, in fact, everything to remind one of a picture of some ancient stone fortress or city wrecked by an upheaval of nature or devastated by the hands of brutal and savage enemies. The writer has visited, in many parts of the United States, scenes of wild grandeur, but in no instance has he looked upon anything more imposing than can be seen in "Lost City."

The purpose of this article is, however, to give to the world the cement possibilities of this immediate section. The greater deposits entering into the manufacture of cement, though they extend along the full length and width of the "City," are found within the limits of "Lost City" proper in the following order:

1. Limestone lies at the top of the

WHERE CEMENT MATERIALS ABOUND.



LIMESTONE LEDGES NEAR TULSA.

ritories, now the State of Oklahoma, presented this opportunity, for throughout the Commonwealth the concomitants of cement are found galore. Tulsa county, however, appears to be the one spot favored above all others, for within her borders can be found everything entering into the manufacture of cement, of the very richest quality, in inexhaustible quantity and in immediate conjunction.

A visit to "Lost City," situated possibly five miles a little west of north of Tulsa and overlooking the Arkansas River, would almost convince the casual observer that the Master had reserved that particular spot upon which to demonstrate the many purposes for which cement can be utilized. The City, as it is called, extends about 15 miles along the Arkansas River, but "Lost City" proper covers an area of possibly three miles in length by an average width of one-half mile. Within this space can be seen what would appear to be castles, with towers, turrets and min-

bluff, 200 feet above the Frisco Railroad (A. V. & W. division), with very light earth covering, requiring but slight striping. This ledge is 30 feet thick and extends over the full length and breadth of "Lost City" proper.

2. A ledge of shale, 20 feet thick, of the same dimensions, lies immediately under the limestone.

3. Three deposits of clay, each 10 feet deep and of wide expanse, lie in the alluvial bottom at the foot of the bluff.

The topographical situation calls for the erection of a gravity plant, which will materially lessen the cost of production. With this kind of a plant stone from the quarry can be dropped to the crusher, from there to the driers, thence to the pulverizing mills and from there to the kilns, while the clinker product will drop to the regrinding mills, from whence the finished product will drop to the sacking-room and warehouse.

The Arkansas River skirts the imme-

diate foot of the bluffs, from which a superabundant supply of water can always be had. In the matter of fuel, natural gas is now in evidence, and can always be had in steady and abundant supply at nominal price. It is estimated by competent authorities that the immediate gas fields will hold out at least 20 years, and back of them are seemingly inexhaustible deposits of the best bituminous coal,

carefully prepared statistics show that 250,000 barrels of cement were consumed in 1909, the city of Tulsa alone using 60,000 barrels. In this connection, considering the building outlook, it is estimated that Tulsa will require over 200,000 barrels in 1910.

In my story of "Tulsa's Good Roads," published in the MANUFACTURERS' RECORD December 16, 1909, I said: "The

additional for every dollar asked for, thus giving the county \$1,600,000 instead of \$700,000 for road purposes alone. In the making of these roads it can safely be figured that in the construction of bridges, culverts, sewers, piers, revetments, etc., cement will be largely used. In the expenditure of \$1,600,000 some idea may be gained as to the amount of cement that will be required. In addition to this, it is

In view of the facts given in this article it occurs to the writer that no better opportunity was ever offered in the cement line for the investment of capital than is presented here in Tulsa county.

The building illustrations given will serve to show to what extent cement is now being used in Tulsa in reinforced construction. In addition to the buildings shown, it will be fully within the

CEMENT IN CONCRETE CONSTRUCTION AT TULSA.



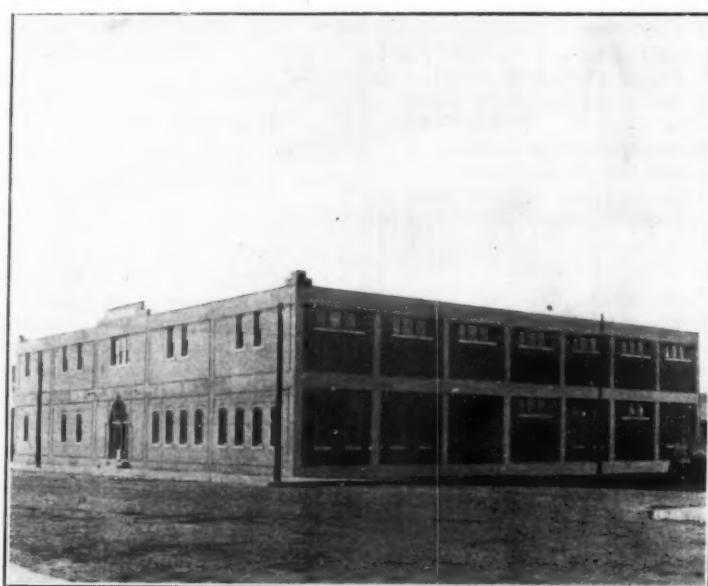
REEDER BUILDING.



CENTRAL NATIONAL BANK BUILDING.



DREW BUILDING.



RATCLIFF-SANDERS WAREHOUSE.

within easy wagon range of the plant.

The immediate railroad facilities for such a plant would be those of the Frisco. The West Tulsa Belt Line, now under construction, when completed, will give the mills direct connection with the Memphis, Kansas & Texas, the Atchison, Topeka & Santa Fe and the Midland Valley.

The market for the plant will include a territory of not less than 100 miles radius, with Tulsa, now a city of 20,000 population, as the center. Within this radius

road fund (\$400,000) is to be distributed to the several townships or road districts in proportion to the necessities of each, the State law requiring that each township or district shall put up, in addition, 75 per cent. of the amount asked for. This will give the county, as a whole, \$700,000 for road purposes alone." A careful examination of the law since writing that article uncovers the fact that, instead of 75 per cent., the townships or road districts are required to put up \$3

more than probable that improvement of the Arkansas River between Tulsa and Fort Smith will be undertaken at no distant day. In that event it is conceded by engineers, who have already made preliminary examinations, that cement will enter largely into the construction of protective work along the banks. What amount would be required can only be a matter of conjecture, but certainly it would loom up into thousands of barrels per annum for several years.

range of truth to say that a dozen six to eight-story concrete buildings are now in contemplation, and that probably all of them will be built in 1910.

The analytical report of the cement materials found at "Lost City" made by experts of Cornell University is as follows:

"I beg leave to render the following report upon an investigation of your raw materials for the manufacture of Portland cement. The six samples submitted

—two limestones, three clays and one shale—analyze as follows:

	Stone	Stone	Clay	Shale	Yellow	Red
No. 1.	2.06	2.62	59.40	56.08	82.00	78.03
S102	1.52	1.76	20.34	21.02	8.66	10.22
Al203	...	...	6.78	9.86	3.18	3.50
Fe2O3	...	...	...	...	...	...
CaO	53.41	52.71	.16	.18	.09	.10
MgO	.53	.62	.81	1.63	.43	.63

The limestones are of excellent quality for the purpose of making Portland cement. The gray clay and the shale are very nearly alike in their composition, and either one in combination with the stone should give excellent cement. The samples marked 'yellow clay' and 'red clay' are very high in silica and correspondingly low in alumina and iron. While they would probably make a fair grade of cement, the mixture would be very hard to burn, and for that reason their use alone with the stone is not advisable. Either one of these clays, however, may be used in combination with the gray clay or the shale.

A trial burn was made with stone No. 2 and the gray clay. The composition of the raw mixture, according to Newbur's formula, should be 1.0 part of stone and .24 part clay. The slurry analyzed 77.8 per cent. of calcium carbonate. The burn was successful, as the following physical tests show:

"Setting Test.—The cement takes initial set in 1 hour 55 minutes, and the final set in 5 hours.

"Test for Soundness.—A standard pat made from the cement, after 20 days' aging, steamed four hours, shows no signs of cracking or warping. Cement sound.

"Test for Fineness.—Passing 100-mesh sieve, 99.6 per cent.; passing 200-mesh sieve, 93 per cent.

"Test for Strength.—Neat cement. Briquettes made July 12 at 2.30 P. M.; per cent. of water used, 21.6.

Days in	Water.	Total.	Strength.
1	0	1	364 | 378
1	6	1	392 |
1	6	1	602 | 621
1	27	28	800 |
1	27	28	782 | 795
1	27	28	804 |

"3 to 1 Standard Sand.—Briquettes made July 12 at 2.45 P. M.; per cent. of water used, 9.2.

Days in	Water.	Total.	Strength.
1	6	7	182 |
1	6	7	166 | 174
1	6	7	173 |
1	27	28	280 |
1	27	28	310 | 296
1	27	28	298 |

Analysis of the finished product follows:

S102	Al203	Fe2O3	CaO	MgO	SiO2
21.22	11.09	....	62.57	1.33	1.19

"These physical tests show the cement to be of excellent quality throughout.

"Yours very truly,

"H. DIEDERICH,

"Professor of Experimental Engineering."

In this matter your correspondent will be pleased to answer all inquiries addressed to him at Tulsa.

F. M. POSEGATE.

Southern Gas Association.

Through the efforts of General Manager R. J. Chambers of the Montgomery (Ala.) Light & Water Power Co. and of Mayor Gaston Gunter, the Southern Gas Association, in session last week at Chattanooga, selected Montgomery as the place for its annual meeting in April, 1911. The association elected Messrs. H. W. Frund, Salisbury, N. C., president; H. B. Hoyt, Jacksonville, Fla., and R. J. Chambers, Montgomery, Ala., vice-presidents, and Jas. Ferrier, Rome, Ga., secretary.

Fifty creamery companies are now organized in Texas, and all but two of them are in active operation.

SOUTHERN COMMERCIAL BODIES WANT INDUSTRIES

WHAT IS YOUR TOWN DOING?

The MANUFACTURERS' RECORD will be glad to receive from responsible correspondents in every town in the South brief items of news about business conditions and the opportunities for industrial enterprises. This information is desired for publication without cost of any kind to the sender, and regardless of whether the writer of the letter is a subscriber or not. The MANUFACTURERS' RECORD accepts no paid town write-ups. It seeks information of this kind from commercial and industrial organizations and from municipal authorities in every town and city of the South.

RAW MATERIAL READY.

Business League,

Columbus, Miss., February 10.

Editor Manufacturers' Record:

Our Business League fully appreciates the value of the publicity to be obtained through the columns of the MANUFACTURERS' RECORD, and has faith in the sincerity and success of your efforts to aid in the industrial development of the South. So we gladly join the ranks of those presenting the claims of their respective localities for the consideration of homeseekers and investors.

Situated in the northeastern portion of Mississippi, near the western border of Alabama, the county-seat of Lowndes, one of the earliest-settled counties in Mississippi, Columbus has long been famous for its social and educational advantages. It is only recently that its industrial and commercial importance has received recognition. Located on a high bluff, overlooking the Tombigbee valley, excellent drainage is had, and the health and longevity of our inhabitants is proverbial. As a place of residence our city is ideal, both as to climate and local condition.

With fuel plentiful and cheap, both wood and coal, and an unlimited water supply from flowing artesian wells of finest quality of water, and a mountain stream of inexhaustible sources, we can offer unusual advantages for the location of industrial and manufacturing plants. With two railroads and a navigable river, favorable freight rates for the manufacturer are permanently assured. Labor is plentiful and living expenses below those of the average Southern city.

Adjacent to one of the most noted cotton-producing sections of the South, between 40,000 and 60,000 bales of cotton—largely of the fine "Backlan" variety, greatly desired by spinners of high-grade cloth—is marketed here annually. But as a timber market Columbus claims even greater distinction than for cotton. It is estimated that 500,000,000 feet of pine, oak, gum and other fine timber is standing today in Lowndes county, to say nothing of immense forests of the same woods within a radius of 50 miles of Columbus. This city is the headquarters for a number of large timber firms and manufacturers, probably 600 employees being engaged in the handling and manufacture of lumber in this city.

Among the numerous industrial plants being successfully operated here we will mention the largest brick plant in Mississippi, three cotton-oil mills, two fertilizer plants, compress, gas and electric-light plant, plow factory, two foundries, several small woodworking plants and the Tombigbee Cotton Mills, with 175 operatives. This cotton mill has thoroughly demonstrated the suitability of Columbus for location of industrial plants requiring cotton as raw material, having been operated continuously and profitably for more than 20 years. The Southern machine shops and divisional headquarters, with more than 200 employees, are also located here.

Our public school facilities and equipments are of the best. The Industrial Institute and College, a State institution,

and one of the greatest of its kind in the United States, is attended by more than

800 Mississippi girls. All religious denominations are represented in our churches, many handsome structures housing our congregations. Our city is pre-eminently one of comfortable homes, many magnificent colonial residences standing alongside the modern cottages which mark the prosperity and progress of our people.

Our League invites correspondence from those interested in location of industrial plants using cotton, wood or iron as raw material.

J. T. WEBSTER,

Secretary.

FARMERS WANTED.

Collinston, La., February 17.

Editor Manufacturers' Record:

Collinston is in Morehouse parish, North Louisiana, at the crossing of the St. Louis, Iron Mountain & Southern Railroad and the New Orleans & Northwestern Railroad, both trunk lines, and about 30 miles south of the line of the State of Arkansas. It is located at the "foot of the hills." West there are high, dry "pine hills." Surrounding us and for 50 miles east is as fine alluvial farm lands as can be found anywhere in the world. Cotton and corn grow abundantly. We are now spending \$35,000 digging a canal which will drain our farm lands perfectly. This canal was laid out by the United States Government engineers.

We have a good school, good church, good society, and no whiskey has been sold in the town nor the ward for the past 15 years.

Land can be bought cheap that will no doubt double in value in a few years on account of the drainage canal. Northern farmers say that there is no country superior to ours, as they can raise two or three crops of almost anything annually, where they raise only one in the North. Anyone dissatisfied regarding the high price they are paying for provisions, etc., should come here, and they will never have any further complaint along that line. There is hardly any vegetable grown that an industrious man could not raise and gather from his garden in the open land on Christmas Day. Irish potatoes planted in the fall are now being dug from the ground daily, and are as fresh and nice as can be bought anywhere. Sweet potatoes keep the year round, and there are none better than our delightful yams. Every farmer has the best and purest molasses, made from the genuine sugar-cane raised on his own plantation.

Come to Collinston and let us show you and tell you of the many things not mentioned in this article. We need good, reliable, substantial white farmers, and men of that character will receive a warm welcome should they visit our town.

Any communication addressed to the Mayor will be answered promptly.

JOHN B. REILY.

WANT WATER-WORKS.

Ravenswood, W. Va., February 18.

Editor Manufacturers' Record:

This town has a municipal electric-light plant and no water-works, and the town is not able to install a water-works plant. It is not allowed by our law to bond the town for such an amount.

Our people are demanding water-works. Now, the town would like to sell the elec-

tric-light plant to some parties that will install water-works in the town and operate both.

I furnish you this information, as I thought the matter would be of mutual interest to us both. Our town has a population of about 1200 to 1500. This town now is an ideal place for any kind of manufacturing, being located on an 18-inch gas line carrying natural gas from Roane county, West Virginia, to Sugar Grove, O., and being located on the Baltimore & Ohio Railroad and the Ohio River. I am receiving letters from creamery, ice and refrigerating people. Many thanks for your interest in the new enterprise.

W. S. MCKAY.

THE CALL FOR BRICKS.

Dawson, Tex., February 21.

Editor Manufacturers' Record:

Situated on the main line of the Cotton Belt Railway, with a population of 1500 people, and in the heart of the famous "Black Land" district of Central Texas, prospects for investors and property-owners, as well as business men, were never more flattering than now. Contracts have been let for the erection of a \$12,000 school building, a second lumber yard with a capital of \$10,000 has ordered its opening stock and the Dawson State Bank, recently organized with \$25,000 capital, is open for business. This makes two banks that are doing a handsome business, while other lines of business show an increase of from 25 to 50 per cent. over the same period last year. The last section of the Eldorado Ranch has been sold for farming purposes, and where once roamed great herds of cattle now stand substantial farmhouses with modern improvements and the richest soil in the world is being tilled, some of it for the first time since creation, and the wonderful crops that are produced thereon are a surprise to the most enthusiastic booster for Dawson black land.

Water-works, electric lights and a first-class hotel are the most desired right now, and fine openings are presented to the capitalist who would make a good investment. The enormous demand for building brick, which cannot be supplied with any regularity from our nearest brick plants, has made it necessary to look at our own clay for the purpose of testing it for its value for brick-making. The test proved to be all that can be desired, the clay making as fine brick as can be had anywhere, and this industry, too, is simply awaiting the magical touch of someone with the money to finance it to yield abundant returns on the investment. The market for brick being practically State wide, and the shipping facilities of the best, makes it a handsome proposition and one worth looking into. Any inquiries will be cheerfully answered by

R. M. FOSTER,

City Secretary.

HAS \$500,000 FOR BONUSES.

Chamber of Commerce,
Shawnee, Okla., February 17.

Editor Manufacturers' Record:

Within the past two months our loyal citizens and boosters have raised \$500,000 to give as bonuses to industrial institutions which will represent a combined capital of \$5,000,000. Our population will double within the next three years. Strong statement that, I know, but it is what every man in Shawnee believes, and it is what every man believes who has been in Shawnee during the last three months.

As previously reported to your magazine, we have closed a deal with the Big Four Packing Co. to erect a packing plant in Shawnee during the year of 1910, which will cost \$3,000,000 to build and equip.

It will be one of the largest and most modern packing plants in the Southwest, and will have a capacity of 2500 head of cattle and 1500 head of hogs per day. The three railroads here are now building spurs to the site of the plant, and material will be carried there as soon as these are completed. The packing plant people have an agreement with the Frisco Railroad to build here from the northeast—an outlet we have long been in need of, and which will give us a direct line to Kansas City and St. Louis. The output of this plant will be handled by one of the largest packing concerns in the world. The stockyards will cover 60 acres, and, owing to the existing conditions, will make Shawnee a great central market for live-stock in the Southwest.

We also have a deal with a large cotton mill which will be built here this year. This institution is backed by both experience and capital from the greatest American cotton-mill center. This factory will cost \$300,000, and will employ 500 people.

We are giving \$100,000 for the location of the Baptist State University, a \$500,000 institution which will receive the support of 70,000 Baptists.

Stock has been subscribed for and actual construction has begun on an interurban railroad to a point 40 miles west, and will be extended that far east later.

Many other industries are considering locating here because of the many natural advantages to be offered.

Shawnee has never had a boom, only a steady growth, but owing to the location of the packing plant and the other industries here, over \$1,000,000 worth of property has changed hands within the last 60 days, and real estate all over the city has increased in value 33 per cent.

W.M. DEMLAND,
Secretary.

Detailed information about towns seeking manufacturing enterprises and offering specific advantages for development and business opportunities can be found under the head of "Classified Opportunities" on pages S2 and S3, and under "Cities, Towns and Railroads Inviting Factories" on pages 118, 119, 120 and 121.

Columbia's Proposed Improvements.

[Special Cor. Manufacturers' Record.]

Columbia, Tenn., February 15.

The city of Columbia contemplates building a new city hall at a cost of \$10,000, the spending of from \$4000 to \$5000 in paving the principal streets and the construction of a trunk sewer line to cost from \$5,000 to \$40,000, according to the character of the material used and the size of the sewer.

A railway line is being built from Franklin to Mt. Pleasant through the phosphate fields of Maury and Hickman counties, and Columbia proposes to have a branch connection with this road to be called the Tennessee Midland Railway.

A survey has been made from Columbia to Franklin, a distance of 23 miles, for a connection with the Nashville, Columbia & Interurban Railroad, now extending from Nashville to Franklin, a distance of 19 miles.

ALEXANDER HELPER.

Southern Ice Men.

The Southern Ice Exchange in its annual session at Atlanta last week elected Messrs. George L. Baker of Columbia, S. C., president; J. H. Howe of Nashville, Tenn., vice-president; E. E. Egan of Atlanta, secretary and treasurer, and E. Bennett of Montgomery, Ala., chairman; Leon Burnett of Helena, Ark.; C. D. Wingfield of Richmond, Va.; E. Woodruff of Atlanta, A. J. Haygood of Charlotte, N. C.; W. H. McGau of New Orleans, John Sachen of Augusta, Robert Gamble of Jacksonville, William Fogarty of Memphis and Lee Elder of Biloxi, Miss., executive committee.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

MILLIONS FOR NEW WORK.

Chesapeake & Ohio to Spend Liberally for Expansion of Its Facilities.

President George W. Stevens of the Chesapeake & Ohio Railway confirms the report from New York that the directors of the company at their meeting last week decided to expend about \$5,000,000 for improvements during this year, but the plans have not been worked out in detail, and consequently they are not yet ready for announcement.

A press report says that the improvements will include double-tracking, the enlargement of freight yards, construction of additional side-tracks, etc. Last year the company voted to issue \$30,000,000 of general refunding and improvement bonds, and of that amount \$11,000,000 have been sold. Presumably the projected work will be provided for by the sale of more bonds out of this authorized issue. This construction is in addition to improvements which were authorized last year and which are not yet finished. The current earnings of the road are displaying increases, and some of the gains are conspicuous.

Reports from Richmond state that the railway company has bought 200 acres of land in the east end of the city adjoining its Fulton freight yards, and it is surmised that it will use this land in connection with the improvements that are to be made this year, but whether it will be occupied by an extension of the yards or by new buildings does not yet appear. These reports quote President Stevens as saying that the purpose for which the land will be used is not yet determined.

A dispatch quotes a director of the Chesapeake & Ohio as admitting that control of the Hocking Valley Railroad is being sought for the purpose of securing a short route for coal to the lakes at Toledo, O. The Chesapeake & Ohio already owns a one-sixth interest of the majority stock of the Hocking Valley line, and the other roads interested are the Baltimore & Ohio, the Erie, the Lake Shore and the Panhandle, each owning one-sixth excepting the latter, which has two-sixths. To make the Hocking Valley line available to the Chesapeake & Ohio it will also be necessary to obtain control of the Kanawha & Michigan Railway, according to this dispatch.

The same dispatch says that the Chesapeake & Ohio will sooner or later acquire the Chicago, Cincinnati & Louisville Railway, which will give it an entrance into Chicago.

NORTHERN CENTRAL DATA.

Roundhouse to Be Erected Near Baltimore—Other Important Construction.

The annual report of the Northern Central Railway Co. for the year ended December 31, 1909, has been published. It shows gross earnings of all lines directly operated, \$12,264,769; operating expenses and taxes, \$9,938,336; net earnings from operation, \$2,326,433. After the payment of rentals the net operating earnings were \$2,252,613. Adding to this interest on investments, amounting to \$939,507, and interest, general account, rents and other items, \$435,170, makes the gross income of the company \$3,627,291. Deducting from this rentals of leased roads, interest on bonded debt, hire of equipment, interest on mortgages, ground rents, car trusts and other items, leaves the net income \$2,602,906. Out of this were paid dividends of 8 per cent., amounting to \$1,547,400, a payment on account of the principal

of car trust, amounting to \$59,381, and in addition to this \$800,000 were transferred to the extraordinary expenditure fund, leaving to be transferred to the credit of profit and loss \$196,215. The total amount to credit of profit and loss on December 31, including the foregoing, was \$3,066,389.

The report says that the gross earnings increased 8.9 per cent. as compared with 1908, owing to the improved business conditions, but the maintenance in operating expenses also show an increase because of expenditures made necessary by economy in the preceding year. The net income exhibits an increase of more than 10 per cent. The number of tons of freight moved was 21,111,851, an increase of 885,563; the number of passengers carried was 4,816,211, increase 317,953.

The company's total assets are \$34,303,004, including cost of railway, real estate and equipment, \$20,974,372; securities owned, \$7,846,984, and current assets of nearly \$5,000,000. The latter item covers cash amounting to over \$2,730,000.

Concerning the improvements at Baltimore the report says that the Maryland Avenue and Charles-street bridges over the railroad tracks will be reconstructed and improved in connection with the building of the new union station, for which the preliminary work is now under way. The company will also build at Orangeville, immediately outside of the eastern city limits, a roundhouse and engine-house and coaling facilities. This will remove from the Mt. Vernon yards, which are inside the city limits and not far from Union Station, the storing of locomotives to a considerable extent and the maintenance of large repair shops, so that the repair work will be done at other points. The Mt. Vernon yards will then be enlarged for the classification of freight traffic. The company also bought wharf property at Canton, in the southeastern suburbs of Baltimore, to be used in connection with the development of business there. This wharf property cost \$330,783.

The company purchased during the year 270 box cars which had been leased under car trust arrangements, 6265 tons of new steel rails and 226,800 crossties for repairs and renewals. It rebuilt 400 freight cars at a cost of \$48,756.

DIRECT CURRENT ADOPTED.

Change of Electric Operation on the Railway Between Baltimore and Washington.

The Washington, Baltimore & Annapolis Electric Railway Co. has changed its system of operation from single-phase alternating current to direct current, the necessary work having been done by the General Electric Co. of Schenectady, N. Y. The change was accomplished without interfering with the regular operation of the road, and the reasons for making it were that the company desired to operate its cars into the heart of Washington, D. C., upon tracks which could not sustain the weight of the large alternating-current cars. Because of this lighter cars, but of nearly equal capacity for passengers, and, like the others, of high speed, were adopted to be used with the direct current. The new cars and the new system also prove more economical in operation. The old cars were of 60 tons weight, while the new are of about 40 tons. The latter are a little shorter than the old, but their general style and appearance is the same.

While the change from alternating to direct current was made on February 15, and the new cars were put in operation on that date, they will not begin running through into the heart of Washington city until March 1 according to arrangements. When this latter change is put into effect the road will be running its cars from the

heart of the Baltimore shopping district through to the Treasury Building in Washington, and vice versa at frequent intervals.

The installation of the new machinery necessary and the accomplishment of the change without interruption of service demanded particular efforts on the part of the contractors, but all was successfully accomplished. The Cleveland Construction Co. was the consulting engineer, and supervised changes in connection with the work.

WILL OPEN IRON-ORE LANDS.

Watauga Railway Co. to Build from North Carolina Into Tennessee.

President W. J. Grandin of the Watauga Railway Co. sends the following information concerning its plans to build a railroad: The projected line is from Lenoir to Booneville, N. C., and Butler, Tenn., with a branch to Wilkesboro and North Wilkesboro, N. C. Ultimately the company will operate a line from Butler to Elizabethton and Johnson City, Tenn. When completed the road will have approximately 120 miles of track. The first part of the road will be 86 miles northwest of Charlotte, N. C. It will run through Watauga county and down the Yadkin Valley. The western terminal will connect with the coal roads reaching the mining regions of Tennessee, Virginia, West Virginia and Kentucky, and the new line will, it is said, give a shorter route for coal from these fields to the seacoast than by any now existing. There will also be a large traffic from lumber and other forest products, and from iron ore, of which there are immense quantities adjacent to the route.

Excepting over the Blue Ridge, which will not exceed 2½ per cent., it is said the average grade will be very light. By following the Watauga River, New River and the Yadkin River the road will have a water grade, one which will be easy to operate. It will either reach or go near Blowing Rock and Boone, N. C., both of which are summer resorts, and the latter is county-seat of Watauga county.

The directors of the company are W. J. Grandin, president, Tidioute, Pa. (president of the Grandin Lumber Co.); M. K. McMullin, vice-president, Pittsburg, Pa. (president of the American Window Glass Co.); W. W. Beatty, secretary and treasurer, Warren, Pa.; O. P. Lutz, assistant secretary, Lenoir, N. C.; F. A. Linney and E. S. Coffey of Boone, N. C. The capital of the company authorized is from \$200,000 to \$1,000,000.

COAL TO CHARLESTON.

Clinchfield Road Makes Arrangement to Begin Shipments Quite Soon.

Dispatches from Charleston, S. C., state that the Carolina, Clinchfield & Ohio Railway Co. has definitely decided upon Charleston for a seacoast terminal, and that Mark W. Potter, chairman of the board, and M. J. Caples, vice-president and general manager, accompanied by J. J. Campion, vice-president and traffic manager, have visited the city to arrange for temporary accommodations from the Charleston Terminal Co. to handle coal for export, but that before the year is out the company will be exporting coal from its own bunkers and terminals on the Cooper River, adjoining Charleston. Until then, beginning within two months, the Terminal Company will afford shipping facilities.

This preparation of the Clinchfield road to ship coal immediately to the seacoast has, it is stated, been brought about by an arrangement with the Southern Railway and Atlantic Coast Line, which will convey the coal from the Clinchfield road

into Charleston. The Clinchfield is in operation to Spartanburg, S. C., and from that point to Columbia it has made a survey for an extension. Whether such an extension will be constructed remains to be decided, but it is possible that the trackage arrangements made with the Southern and the Coast Line will render further construction unnecessary on the part of the Clinchfield.

New Equipment, Rails, Etc.

The Western Maryland Railroad is reported in the market for 500 all-steel hopper cars and 400 steel underframe hopper cars. The company is also expected to purchase locomotives.

The San Antonio, Rio Grande & Tampico Railroad Co. of San Antonio, Tex., according to a report quoting Geo. W. Nock, chairman, is negotiating for ties and steel.

The Louisville & Eastern Railway is receiving deliveries on its order for five large interurban electric cars, 60 feet long, built by the American Car & Foundry Co. at its Jeffersonville (Ind.) works.

The Missouri & North Arkansas Railroad Co. has ordered from the Baldwin Locomotive Works, Philadelphia, two freight locomotives of the Mikado type and two 10-wheel passenger engines; it is also having built by the American Car & Foundry Co. at St. Louis 20 50-foot furniture cars to be delivered in March, and at the St. Charles (Mo.) works of the same company two 60-foot second-class passenger cars, platform type.

The Missouri, Kansas & Texas Railway system, says an official, is preparing to purchase equipment as follows: Five 10-wheel passenger engines, 10 Pacific type passenger engines, 20 consolidated freight engines, 105 tons; 20 Standard Mogul freight engines, 10 switch engines, 15 coaches, 15 chair cars, 5 standard 60-foot postal cars, 6 combination mail and coach (30-foot mail combination), 10 baggage cars, 70-foot; 5 dining cars, 1000 box cars, 300 furniture cars, 200 automobile cars, 500 coal cars, 100 steel underframe flat cars, 75 side-dump cars, 50 standard cabooses, 3 locomotive cranes, 1 steam wrecker and 1 spreader.

The Missouri, Kansas & Texas Railway has purchased 100 miles of 85-pound steel rails from the Illinois Steel Co. of Chicago.

The South Georgia & West Coast Railway is reported to have ordered 15 miles of 60-pound steel rails for replacements.

The Chicago & Alton Railway denies the report that it has recently ordered 20,000 tons of open-hearth rails from the Illinois Steel Co. of Chicago.

The Southern Railway Co. is reported contemplating the purchase of 6000 freight cars.

President A. H. Ford of the Birmingham (Ala.) Light & Power Co. says in his annual report that a number of cars will be purchased this year.

The Atlanta, Birmingham & Atlantic Railway is reported to have ordered about 200 tons of bridge steel from the Lackawanna Steel Co., Buffalo, N. Y.

The Atlantic Coast Line, according to a market report, has ordered from the Lackawanna Steel Co. about 200 tons of steel for small bridges.

The Richmond & Henrico Railway Co. of Richmond, Va., has ordered from the Pennsylvania Steel Co., Steelton, Pa., 1000 tons of girder rails, 120 tons of "T" rails and about 20 tons of crossties, curves and special castings. Deliveries have begun. The same company is also furnishing steel for the railway viaduct.

The Southern Pacific system is reported in the market for electric cars, about 100 in number, including motor, trailer and express cars.

The Southern Railway is reported in the

market for a large amount of rails, perhaps 50,000 to 60,000 tons.

Telephone Dispatching Service.

The Georgia Railroad will install within the next few weeks telephone equipment for dispatching trains between Augusta and Atlanta, Ga., a distance of 171 miles, and from Camak, Ga., to Macon, Ga., a distance of 74 miles. There will be 28 regular stations and five siding telephones on the line from Augusta to Atlanta, and 20 regular stations from Camak to Macon.

Railroads in the South have recently been very active in adopting the telephone method of handling the movement of trains. The Southern Railroad has purchased from the Western Electric Co. equipment for the installation of telephones and selectors on a portion of its line.

The Chesapeake & Ohio has installed similar equipment on the Cincinnati division. The Norfolk & Western Railroad has equipped a large portion of its line with telephones. The Seaboard Air Line has installed the telephone on two of its divisions. The Atlantic Coast Line has for some weeks been handling train movements on one division by this method.

New Railroad Plans.

Among the new railroads incorporated recently are the following:

Cheat River & Monongahela Valley Railroad Co. of Kingwood, W. Va., capital \$50,000, to build a line from Albright, in Preston county, West Virginia, northward along Cheat River to a point near the West Virginia boundary at Cheat Haven, Pa., about 25 miles. The incorporators are E. M. Lantz, William S. Downs, James W. Flynn, Neil J. Fortney and Julius K. Monroe of Kingwood, W. Va.

Isothermal Traction Co. of Rutherfordton, N. C., to build an electric railway from Rutherfordton to Gastonia, N. C., about 50 miles; capital \$100,000. Branches may also be constructed under the charter for a distance of not more than 50 miles from Rutherfordton. The incorporators are K. S. Finch of Charlotte and J. F. Flack, W. A. Harrill, E. B. Harris and C. F. Geer of Rutherfordton.

Appalachian Railway Co. of Knox county, Tennessee, capital \$10,000, to build a line from Oliver Springs to Lancing, Tenn., about 20 miles. The incorporators are J. W. Prevost, J. M. Cassil, C. M. Franklin, E. E. Ferguson and John W. Green.

Winston-Salem to Wadesboro.

President H. E. Fries of the Winston-Salem Southbound Railway Co., Winston-Salem, N. C., is quoted there as saying that the company hopes to have its line from Winston-Salem to Wadesboro, N. C., about 90 miles, completed by August or September next. The contractors are pushing the work, some of them operating both day and night forces, and there are 16 large steam shovels distributed over the line for the heavy parts of the construction.

It is expected to begin some track-laying in March, and contracts for this work may soon be let. There will be four large bridges, the longest being over the Yadkin River, 150 feet, and three others, including one of 690 feet over Salem Creek. The latter is a viaduct with double tracks.

Plans of the Nutraco Company.

Barney McDaniel secretary, informs the MANUFACTURERS' RECORD that the Nutraco Company was incorporated in Oklahoma recently to promote, organize, finance and construct steam and electric railways, gas, water and electric plants and industrial enterprises. It will also handle stocks, bonds and franchises and patent rights; capital \$10,000; headquar-

ters, Claremore, Okla., where offices will be opened within a few days. Mr. McDaniel further says that the company is already interested in several large projects. The officers are: Wm. J. Jones, president; O. C. Randall, vice-president and treasurer; Barney McDaniel, secretary, and P. G. Walker, consulting electrical engineer.

The Nutraco Company seems to have acquired its name by a condensation of the title of the Kansas Union Traction Co. of Altamont, Kans., of which Mr. Jones is also president and Mr. McDaniel secretary. This latter company proposes to build a line of 90 miles length from Parsons to Coffeyville, Kans., and also from Cherryville to Columbus, Kans. A line is contemplated in Oklahoma.

Western of Georgia.

A letter from Newnan, Ga., to the MANUFACTURERS' RECORD says that the right of way has been obtained for the Western of Georgia Railroad, a proposed line from Franklin, in Heard county, Georgia, through Newnan to Aberdeen, Ga., in Fayette county, on the Atlanta, Birmingham & Atlantic Railroad. Active construction will begin at an early date. J. N. Orr is president and R. M. Hall chief engineer, both at Newnan, Ga. Ira L. McCord & Co., 42 Broadway, New York city, are the general contractors.

Railroad Notes.

A dispatch from Roanoke, Va., says that the Norfolk & Western Railway has awarded to Jos. H. Sands of that city a contract for the cut-off, about nine miles long, which is to be built around the city of Petersburg, Va., in order to avoid a heavy grade.

The American Locomotive Co., New York city, has issued a bulletin on train resistance containing much valuable information about train operation and the character of locomotives required to haul different loads at different speeds. The bulletin is numbered 1001.

A report from Augusta, Ga., says that W. L. Glessner of Valdosta, Ga., has been appointed land and immigration agent of the Georgia & Florida Railway, with headquarters in Augusta. Major Glessner is at present secretary of the Valdosta Chamber of Commerce, which position, it is reported, he will resign to take up his new work.

Dispatches state that the Missouri, Kansas & Texas Railway has purchased the Dallas, Cleburne & Southwestern Railroad, which it has leased for some time. The line is a short one, from Egan, Tex., to Cleburne, about 10 miles. It was built by B. P. McDonald of Fort Scott, Kans., about five years ago, and was projected to San Antonio.

Winston-Salem Industries.

[Special Cor. Manufacturers' Record.]

Winston-Salem, N. C., February 17.

From statistics just completed by the Board of Trade from the confidential statements submitted to them by the merchants and manufacturers of the city, it is learned that the 112 factories here turned out over \$25,000,000 worth of manufactured goods last year, of which the following is a partial list: Plug tobacco, twist, smoking tobacco and snuff, \$17,827,500; knit goods, \$1,225,000; furniture, \$715,000; cotton and woolen goods, \$880,000; wagons and carts, \$519,000; iron and wood work, \$670,000; fertilizer, \$1,000,000; building material, \$1,088,000; flour, meal and bread, \$367,250; shops, \$550,000; candies, \$235,000; clothing, \$102,000; drugs and soft drinks, \$153,000. The local factories consume and produce 1,000,000,000 pounds of freight annually and give employment to over 10,000 people who receive annually in wages \$3,300,000. CLARENCE SCROGGES.

GOOD ROADS

WEEK'S HIGHWAY RECORD.

Progress in Southern Road and Street Improvement.

[Full details of highway undertakings are given in the Construction Department.]

Bonds Voted.

Catlettsburg, Ky.—City issued \$12,000 bonds for street paving.

Whiteville, N. C.—City voted \$25,000 bond issue for street improvements.

Bonds to Be Voted.

Appalachian, Va.—City voted issuance of \$14,000 of bonds for street improvements, etc.

Frostburg, Md.—City will vote on issuing \$50,000 of bonds for grading and paving streets.

Obion, Tenn.—City votes March 19 on issuing \$15,000 bonds for street and sidewalk improvements.

Pulaski, Tenn.—Giles county will vote on issuing \$100,000 of bonds for road construction.

Contracts Awarded.

Ardmore, Okla.—City awarded contract for asphalt paving costing about \$15,000.

Austin, Tex.—City awarded contract for paving East 6th street.

El Paso, Tex.—City awarded contract for construction of 10,602 square yards of bitulithic pavement.

Huntsville, Ala.—City awarded contract for sheet asphalt paving.

Marianna, Ark.—City awarded contract for street paving.

Norfolk, Va.—City awarded contract for 2600 yards of bitulithic paving.

Tulsa, Okla.—City awarded contract for paving 80 blocks with asphalt.

Oklahoma City, Okla.—City awarded contract for grading 12 miles of proposed 27-mile park boulevard 200 feet wide.

Contracts to Be Awarded.

Chattanooga, Tenn.—City will soon invite bids for 7000 feet of curbing and sidewalk.

Clinton, Okla.—City plans constructing four and one-half miles of cement sidewalk.

Columbia, Tenn.—City plans \$5000 expenditure for street paving.

Ensley, Ala.—Corey Land Co., Birmingham, will construct 87,350 linear feet combination cement curb and gutter, 13,600 linear feet cement curb, 46,650 square yards cement sidewalk, 88,477 square yards macadam streets, 32,411 square yards paved streets, all in connection with building industrial city.

Holdenville, Okla.—City engineer is preparing plans for paving 18 blocks.

Lake Charles, La.—City engineer will prepare plans for sidewalk construction; about five miles.

Macon, Ga.—City will invite bids for street paving; about 48,000 square yards.

Towson, Md.—Highways Commission opens bids March 10 for grading and macadamizing three-quarters mile of Falls road.

The first number of the fourth volume of the "Journal of American History," published at Meriden, Conn., is a splendid exposition of the purpose of the publication, embodying the life stories of men and events that have entered into the building of the Western Continent; the results of original researches into authoritative sources in Amsterdam, British and other European archives; private journals, diaries, etc.; folklore and reproductions from rare prints and works of art. The current issue of the publication in artistic furnishings is typical of its wide scope.

The Paducah (Ky.) Traction Co. is reported to be testing a brake patented by R. E. Rudolph. It is stated to be designed to take the place of airbrakes.

MINING**The Crozer-Pocahontas Company.**

The Crozer-Pocahontas Company was organized in November, 1909, for the purpose of handling the output of the following collieries: Crozer Coal & Coke Co., Peerless Coal & Coke Co., Lynchburg Coal & Coke Co., Upland Coal & Coke Co., Page Coal & Coke Co., Eureka Coal & Coke Co., and Powhatan Coal & Coke Co.

The output of these mines from the beginning has been handled through the well-known firm of Castner, Curran & Bullitt of Philadelphia, Pa., which, by broad-gauged business methods, made Pocahontas coal favorably known throughout the world. Believing, however, that the time had arrived when it would be advisable to market their own output, the interests controlling these operations formed the Crozer-Pocahontas Company, and will after April 1, 1910, distribute the entire output from these operations.

These seven producing companies are operated under leases from the Crozer Land Association, which owns 17,000 acres of coal lands located in McDowell county, West Virginia, and in the heart of the celebrated Pocahontas-Flat Top field. They have been in active operation since the State of West Virginia became prominent as a producer of bituminous coal, and owing to the superior quality of their products contributed largely to the fame of Pocahontas coal.

The coal is mined from the No. 3 or Pocahontas vein. This vein occupies the same geological position above the Mauch Chunk red shales, or No. 11 of the Pennsylvania survey, as does the Lykens Valley in the anthracite region. In fact, it has been the coal from this vein that has made Pocahontas so well and favorably known.

In addition to mining coal, these collieries also operate 1978 coke ovens. The coke from these has a well-established reputation, and has been sold for several years past through J. J. Tierney as sales agent.

All of the various operations are modern in regards to machinery and equipment, and great care is exercised in the preparation of the coal and coke for the market.

The capacities of the various operations are as follows: Crozer Coal & Coke Co., two openings, 354 coke ovens, first shipment in 1888, daily productive capacity 2000 tons; Upland Coal & Coke Co., two openings, 232 coke ovens, first shipment 1891, daily productive capacity 1500 tons; Peerless Coal & Coke Co., two openings, with an additional one contemplated, 254 coke ovens, first shipment 1893, daily productive capacity 1200 tons; Page Coal & Coke Co., three openings, 500 coke ovens, first shipment 1904, daily productive capacity 2000 tons; Lynchburg Coal & Coke Co., one opening, 213 coke ovens, first shipment 1891, daily productive capacity 1200 tons; Eureka Coal & Coke Co., one opening, first shipment 1893, daily productive capacity 1100 tons; Powhatan Coal & Coke Co., two openings, 225 coke ovens, first shipment 1889, daily productive capacity 1500 tons.

The officers of the Crozer-Pocahontas Company are Messrs. Louis R. Page, president; John J. Tierney, vice-president and general sales manager; Francis E. Western, secretary and treasurer.

The main offices of the company are located in the North American Building, Philadelphia, Pa., while the branch offices are maintained at Boston, Mass.; Chicago, Ill.; Bluefield, W. Va., and Norfolk, Va.

The Oak Leaf Coal Co.

The MANUFACTURERS' RECORD is advised of the formal organization of the Oak Leaf Coal Co. for the purpose of develop-

ing about 1200 acres of coal land near Cordova, Ala. The company is capitalized at \$50,000, all of which has been paid in, and will make three openings on its property, expecting to ship coal within the next three months, and within a year to develop its output to 1000 tons per day. It will operate a drift mine and work a five-foot seam of coal with the Jefferson and Black Creek seams under it, which will be developed later. To facilitate shipments it will construct about two miles of railroad to connect with the St. Louis & San Francisco and the Southern Railway, and will also have water connection with the Warrior River at Cordova. It desires to purchase two miles of 60-pound relay rails; a span of 50 feet truss iron; mining cars of 1½ tons capacity; 24-pound mining rails, etc. Officers of the company include Geo. M. Webb, president; Dr. Aaron L. Harlan, Alexander City, Ala., vice-president; R. C. Bush, second vice-president; H. F. Kerber, secretary and treasurer, and Jos. S. Shannon, 625-26 Woodward Building, Birmingham, general manager.

Report on Nickel Mines.

The Consolidated Nickel Co., 16th and Irving Place, New York, has received a report on its nickel properties and mines at Webster, N. C. This report was submitted by Charles Theodore Hennig, Ph.D., consulting metallurgical chemist, 1620 New York avenue, Flatbush, Long Island, N. Y. It presents interesting data regarding the company's properties, embracing the location, altitude, roads, climate, geology, tonnage of ore, values, development, description of the mining process used, reduction plant, product made and its uses, etc.

To Develop 5000 Acres.

The Tennessee River Coal Co. is reported as proceeding with its plans for the development of 5000 acres of coal land near Orme, Tenn. It will install an electric mining plant with a daily output of 800 tons of coal and provide other facilities. R. F. Kilpatrick of New York city is the general manager, and G. H. Crozer of South Pittsburg, Tenn., is the engineer in charge.

Mining Notes.

The Lunenburg Mining Corporation of Norfolk has incorporated with a capital stock of \$200,000. Its officers are H. Goodman, president; F. A. Alberdi, vice-president; M. Broady, secretary and treasurer, all of Norfolk.

The Heima Land & Mining Co. of Joplin, Mo., has incorporated with a capital stock of \$200,000. Among its incorporators are William H. Barnett, Kansas City, Mo.; Charles F. Noble, William M. Pye and James F. Gallagher, all of Joplin.

The Big Sandy Fuel Corporation of Dorchester, Va., has incorporated with an authorized capital stock of \$500,000 for the purpose of developing coal lands. Its officers include M. M. Morgan, president; N. S. Meldrum, vice-president, and W. E. Decker, secretary and treasurer, all of New York city.

The Pickett Cotton Mills.

The Pickett Cotton Mills of High Point, N. C., will be organized with R. L. Steele of Rockingham, N. C., as president; W. P. Pickett, vice-president, and F. M. Pickett, secretary-treasurer, both of High Point. The company is capitalized at \$250,000, and will build a mill of probably 12,000 spindles and 300 looms, operated by electricity from the High Point transmission of the Southern Power Co. of Charlotte, N. C. This is the company recently noted proposed by the Messrs. Pickett, J. Elwood Cox and others.

TEXTILES

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the MANUFACTURERS' RECORD. We shall be glad to have such matters at all times, and also to have any general discussion relating to cotton matters.

The E. L. Shuford Mill.

The E. L. Shuford Manufacturing Co. of Lawton, Okla., now has final plans for its mill recently reported. Its main building will be two stories high, of standard mill construction, 75x450 feet. This will be equipped with 10,000 spindles and 300 looms, driven by steam power. All contracts have been awarded. J. E. Sirrine of Greenville, S. C., is the architect and engineer in charge.

The company telegraphs the MANUFACTURERS' RECORD that contract for erecting the mill building and 60 operatives' cottages has been awarded to the Fiske-Carter Construction Co. of Worcester, Mass.

The Durham Textile Mills.

The Durham (N. C.) Textile Mills has been organized with A. M. Moore, president; E. R. Merrick, vice-president; C. C. Spaulding, treasurer, and Chas. C. Amey, secretary-general manager. This company has a capital stock of \$50,000, and has contracted for its machinery. It will occupy the second floor of a 16x45-foot building and begin manufacturing with 10 machines, two loopers, two ribbers, etc., driven by electricity. Its daily output will be about 70 dozen pairs of hosiery in the white, and this will be increased later.

Lowe Manufacturing Co.

The Lowe Manufacturing Co. of Huntsville, Ala., has awarded contract to T. C. Thompson & Bro. of Birmingham, Ala., for the erection of the addition recently announced. This new building will be 80x100 feet, of brick, and will contain 300 looms, for which contract has been awarded. The company now has 25,600 ring spindles and 270 looms.

The Jennings Cotton Mills.

The Jennings Cotton Mills of Lumberton, N. C., has organized with H. B. Jennings, president-treasurer; A. E. White, vice-president, and F. P. Gray, secretary-assistant treasurer. This company will build a cotton-yarn mill to cost about \$275,000, but the details have not been determined. It was reported incorporated some weeks ago.

A Proposed Cotton Mill.

Walter E. Womble of Womble, Ark., and associates contemplate the development of a water-power and the erection of a cotton cloth or thread mill. They have not determined any details, and invite data relative to manufacturing the goods named and prices on the necessary machinery.

Company Increasing Capital.

The Monroe (N. C.) Cotton Mills will increase capital stock from \$145,000 to \$175,000. This company now has 8736 ring spindles, 152 broad looms, etc., and was reported lately as installing the electrical drive.

Textile Notes.

A. O. Norris of Graham, Tex., is interested in a plan to build a cotton mill.

Wm. N. Randall of Atlanta, Ga., may build a textile mill. He has not determined any details.

The Tarboro (N. C.) Cotton Factory has increased its capital stock from \$164,450 to \$200,000. It now has 13,200 ring spindles and 200 looms.

LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

To Develop 200,000,000 Feet of Timber.

Reports state that the Wisconsin Lumber Co. of Chicago has awarded contracts to T. R. Helms for the construction of a double-band sawmill at Huttig, Ark., to facilitate the development of its extensive timber holdings in that vicinity. The company is said to own about 200,000,000 feet of white oak timber, and will install two band saws, with other equipment, for the manufacture of hubs, belt rims and wagon stock. It is understood that the boilers for the plant will be furnished by the Casey-Hedges Company of Chattanooga, while the Southark Foundry & Machine Co. of Philadelphia will supply a Porter-Allen engine. The company expects to have the plant in operation within six months.

Timber Development in Arkansas.

In connection with the proposed development of nearly 5000 acres of hardwood timber land in the vicinity of Nettleton, Ark., by the Michigan-Arkansas Lumber Co., 805 Majestic Building, Detroit, the MANUFACTURERS' RECORD is advised that the company will erect a sawmill of approximately 40,000 feet daily capacity to facilitate its operations. The main building will be 34x88 feet, of wood construction and steel roof, while the boiler-house and engine-room will be 27x67 feet, of brick fireproof construction and steel roof. The plant will be equipped with modern machinery, which has already been purchased.

Interstate Builders and Traders.

At a meeting of the Interstate Builders' and Traders' Association in Washington last week the following officers were elected: President, John Trainor, Washington; first vice-president, E. C. Graham, Washington; second vice-president, Perry W. Ruth, Norfolk; secretary, I. H. Seates, Baltimore.

Lumber Notes.

The Oklahoma Timber Co. of Enid, Okla., has been incorporated with a capital stock of \$100,000 by A. B. Chatek, O. F. Hakel, H. S. Moreland and associates.

The Standard Timber Co. of St. Albans, W. Va., has been incorporated with a capital stock of \$150,000 by H. B. Smith, Buckner Cla, R. S. Spilman and associates.

The Greenlaw Lumber Co. of Ramsay, La., E. R. Greenlaw, general manager, announces that it will put its plant on the night run about March 1, requiring 100 additional employees and increasing the production to 200,000 feet daily.

For Trinity College.

[Special Cor. Manufacturers' Record.]

Durham, N. C., February 22.

Ground will be broken tomorrow by Contractor N. Underwood, beginning the first of a brace of buildings for Trinity College. The first is to cost about \$70,000, and it is designed by Hook & Sawyer of Charlotte for 18 recitation-rooms. Mr. Underwood is under contract to complete the building by October 1. It is of high basement, two stories, 90x172 feet. In time it is expected to connect this to another twin building to be used for the faculty, society halls and other uses. A monumental tower will join them. The new building grows out of the munificence of Mr. B. N. Duke, who is to erect the others, and who is responsible for the maintenance of five extra professors. W. T. Bost.

MECHANICAL

Hard Water for Boiler Feed.

By ARTHUR PENNELL.

Hard water in its crude state is very objectionable for use in steam boilers, on account of the sparingly soluble mineral matter with which it is more or less loaded at normal temperature. These salts precipitate as the temperature of the water rises and cause endless trouble and much

the condensation of live steam in the shell on the outer surface of the tubes. As the temperature of the water rises the residue of the (A) salts first precipitate. When the temperature reaches 260 degrees the (B) salts, mostly sulphates of lime and magnesia, lose one molecule of their water of combination and begin to precipitate. When the temperature reaches 303 degrees the second molecule of water of combination passes off and anhydrous sulphates (plaster of paris) come into suspension.

are disposed of. The temperature of the steam in the shell is, approximately, that corresponding to the boiler pressure, and the tube surface exhibited must be more than sufficient to raise the water from 200 degrees or lower to 310 degrees or upward, with a generous margin to allow for some scale forming inside the tubes. This scale must be removed with a turbine cleaner when its accumulation lowers the temperature, as shown by the thermometer, below 310 degrees.

By the installation of a syphon condenser and water-cooling apparatus on the lines indicated in Fig. 2, a vacuum can be induced upon the engine, varying, according to the altitude of location above sea level and atmospheric conditions, from 18 inches of mercury in hot, humid weather in considerable altitudes to 27 inches in cold weather near the coast for a still less quantity of purified water, the increase in current expense being that necessary to run the circulating pump.

Before starting the tank below the cooling apparatus, the hot well, the two settling tanks, heater and the boiler must be filled, preferably, with water softened by means of lime and soda ash, conveniently in the tank. While the steam is being raised in the boiler the circulating pump, motor driven, draws water from the tank below the water cooler to circulate through the syphon condenser and induce a vacuum upon the engine, lowering the level of the water in the tank by the amount of water in circulation. When the engine starts some definite weight of steam enters the condenser per minute and increases the weight of water reaching the hot well per minute. Passing to the cooler, the water exhibits a very extended surface to the current of air which it encounters. Atmospheric vaporization occurs, and a portion only of the additional water vaporizes and passes up the flue. The remainder of the additional water falls into the tank and gradually raises the level of the water therein.

The results of an exhaustive test made for the Armour Packing Co. of Kansas

thus check the supply so as to permit water from the hot well to reach the pump through the other suction branch.

The advantages of the apparatus are the certainty that all the sparingly soluble salts which the water may contain when cold must precipitate and settle at the bottom of one or other of the tanks in the slushy state that can be readily flushed to waste irrespective of any change in quantity per gallon due to weather variations or hourly demand.

The apparatus is designed to purify some specified maximum number of United States gallons per hour, entirely irrespective of its subsequent duty.

The "Capnal."

An improved product that will appeal to many is the "Capnal," illustrated herewith. This nail is manufactured by the Weatherproofing Nail Co. of Baltimore, Md., which says:

"The 'Capnal' is for use on all grades of roofing paper, ready-to-lay roofing, asbestos, felt, etc. Severe tests covering a period of four years have proven conclusively that 'Capnal' nails meet all requirements.

"The ring bears true driven at any angle. Holds tight for all time.

"Owing to the bearing ring's differential pressure and the absence of sharp edges there is no tearing or injury of paper.

"The surface within bearing ring being uncovered, all moisture evaporates, thus avoiding rot, insuring quick drying and increasing the life of all grades of roofing paper.

"In the use of all grades of weatherproofing the cost of labor is greatly in excess of the cost of material. Three 'Capnal' nails can be driven in the same time



FIG. 1.—HARD WATER FOR BOILER FEED.

expense. (See two accompanying diagrams.)

These mineral salts can be divided into two classes—A and B. Class A owe their solubility to the presence in the water of carbon dioxide, also in solution. Class B do not depend upon carbon dioxide for their solubility.

Class A salts do not completely precipitate until the temperature of the water has reached several degrees above the boiling point, which temperature can only be attained in a closed vessel. A very large percentage, however, precipitates at temperatures attainable by means of exhaust steam, to take care of which the unit to the right in Fig. 1 is provided. For this unit the cold, hard water flows into an easily removable pan, the bottom of which is perforated with a suitable number of equidistant one-eighth-inch holes. The pan sits on top of a cylinder, down which the water falls in a shower through an atmosphere of exhaust steam. The falling water promptly attains a close approximation to the temperature thereof. The exhaust steam enters the lower part of the cylinder through a branch from the exhaust main, the condensation in the cylinder causing considerable draught, which can be regulated by a valve on the branch. Any excess of exhaust steam, with all non-condensable gases expelled from the falling water by the rise in temperature, escape through the upper outlet into the air.

The water, turbid with precipitated matter, descends the pipe to enter the settling tank near the bottom horizontally and peripherally by means of an elbow suitably set on the inside. In the tranquility of the settling tank the precipitated matter coagulates with itself and any suspended matter to gradually settle on the floor of the tank for frequent flushing away, while the slowly ascending water, clarifying as it rises, becomes bright and clear before reaching the level of the outlet to the pump. The level of the water in the tank is maintained at a higher level than the outlet by means of a float controlling a valve on the cold-water pipe.

The hot, clear water enters the boiler-feed pump to be discharged into the lower chamber of the heater. Rising in the tubes, the water absorbs more heat from

the outlet from the upper chamber to the high-pressure settling tank is about six inches above the tube plate, the level of the water being from four to six inches higher than that. Above this is an air pocket, into which such gases as enter the lower chamber in solution, to be expelled by the higher temperature, rise and accumulate. This gas accumulation is relieved from time to time by a simple device which discharges into the steam space in the boiler, the important point being to keep such gases out of the high-pressure settling tank, wherein their presence would disturb the clarification process. From the top

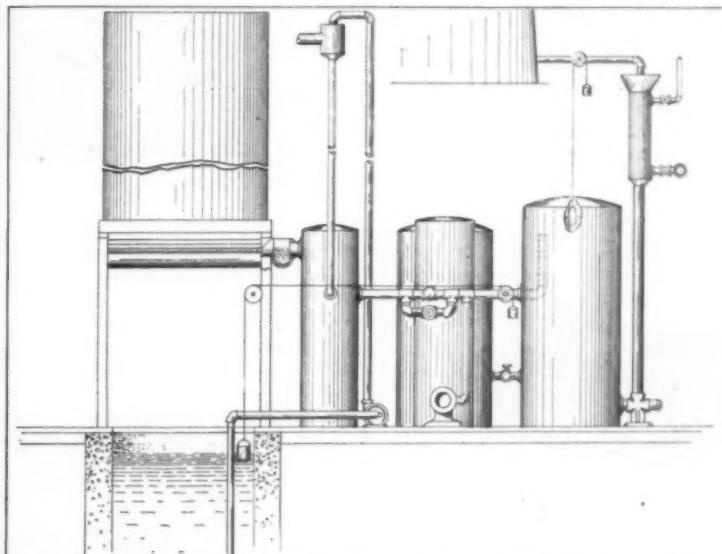


FIG. 2.—HARD WATER FOR BOILER FEED.

of the settling tank the water passes through a check valve into the boiler, clear, bright, free from all encrusting matter and at high temperature.

Live steam from the boiler enters the tube chamber of the heater near the top. By means of the horizontal baffle plates the steam is caused to pass across among the tubes several times, some of it condensing thereon as it goes, while the remainder reaches the outlet near the bottom to pass on to the feed pump or other engine that is constantly running. All non-condensable gases, entrained in the live steam, pass constantly from the outlet into the pump and

City on a saturating air steam condenser show that the atmospheric vaporization carrying off the heat was 43.5 per cent. of the condensation water under the following atmospheric conditions: Barometer, 28.58 inches; temperature, 62 degrees Fahr.; relative humidity, 67 per cent. Under such circumstances 56.5 per cent. of the boiler vaporization will reach the tank and gradually raise its water level.

In time the water in the tank below the cooler would reach the suspended float, and, raising it, would allow the counterweight to check the butterfly valve on the suction branch from the first settling tank, and

that is required to assemble and drive one in cap and nail.

"The free end of the bearing ring being lowest, it engages the paper, causing a positive spring pressure on the weatherproofing material, thus taking up all shrinking and allowing for expansion. The nail head is so formed as to give even pressure on any thickness of material. It will hold tissue paper as well as the thickest roofing material.

"As a seamer it has no equal. Cement and pitch are subject to climatic changes, so cannot be relied on. Tin caps and big-headed nails, not possessing differential pressure, are practically worthless. 'Capnal' weatherproofing nails insure tight seams under all conditions.

"On high-grade roofing, when a coating is used over the paper, 'Capnal' nails act as a positive holder and binder, the coating flowing in and around the bearing ring, preventing shifting, etc.

"The convex shape of tin caps generally precludes their use for covering sheathing with weatherproofing paper. The heads of 'Capnal' nails drive flush against the bearing ring, which lays flat, requiring only one-tenth inch space between the weatherboarding and sheathing."

The Eureka Company's Crusher.

Crushing equipments play an important part in many avenues of activity. They have been given the attention of skilled engineers, and consequently machinery for economically and effectively crushing all kinds of material has been introduced. An accompanying view illustrates the crusher

manufacturer by the Eureka Stone & Ore Crusher Co. of Cedar Rapids, Iowa. Mitchell's No. 2 improved 1910 pattern is represented. It weighs 4000 pounds, has a jaw opening 8x12 inches, requires five horse-power and can be mounted on portable steel truck. It will reduce rock from four inches to five inches in size down to sand and pea size in one crushing. All wearing parts are of manganese steel. The eccentric shaft is of cold rolled hand-forged steel. The Eureka Company says:

"This stone crusher is no experiment. Since we have commenced to build these



THE EUREKA CO.'S CRUSHER.

machines we have so thoroughly demonstrated their superiority that our plant has not been able to supply the demand, and we now are forced to increase our manufacturing facilities.

"It is the most simple in construction; does not get out of order; is easily managed; will crush the very hardest material. If a hammer or other material that it is impossible to crush should accidentally get into its jaws the undue stress will result in breaking the link plate, allowing the jaws to open and prohibiting any damage to the crusher bed.

"It can instantly be adjusted so as to crush rock and ore or other material to any desired size. It will reduce it as fine

old-style ball mill and rolls. It will crush clinkers to the required fineness, and is miles ahead in the matter of installation, cost and maintenance. It requires less space, is easier repaired, quicker in operation and takes less power to drive.

"Send us your samples. We will crush them free of charge and advise on your requirements."

The Griffith & Wedge Co.

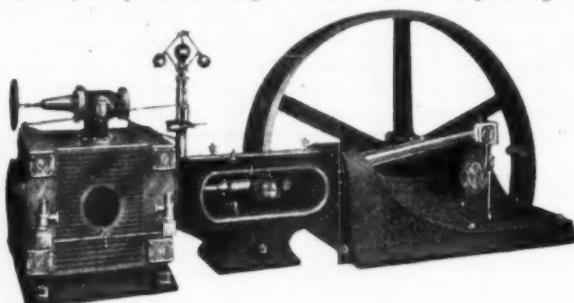
One of the pioneer companies in America had its beginning in 1840, when Francis Wedge and Thomas Griffith began

heavy-duty engines, and its Ohio Corliss engine is used in connection with the most adequate production of the best machinery produced by different builders.

The officers of the Griffith & Wedge Company are: C. D. Wedge, president; H. O. Fulkerson, vice-president and gen-

eral manager; Edward Gigax, secretary and treasurer.

Each of the supervising offices con-



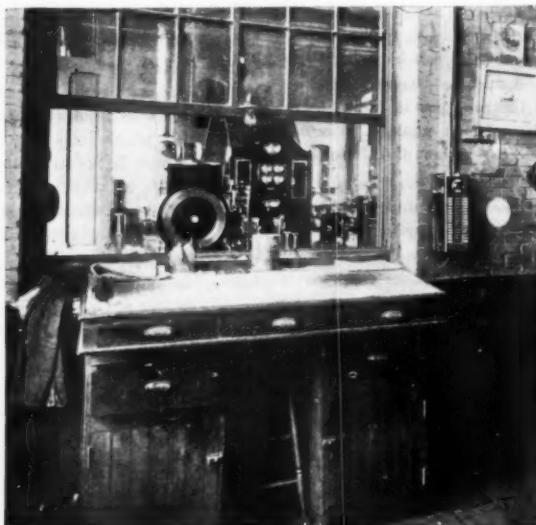
GRIFFITH & WEDGE CORLISS ENGINE.

geral manager; Edward Gigax, secretary and treasurer.

Private Telephones in Factory.

An interesting solution of the problem of intercommunication is furnished by a big cotton-yarn factory at New Bedford, Mass. The answer to the question how best to secure instant connection among the units of a manufacturing plant has always been sought and found with varying degrees of success. Messenger boy

connected with any of the other departments is equipped with the desk telephone set. A metal key box at the left of the superintendent's desk contains the 31 buttons through which connection is made with the other stations of this interior system. When the superintendent or foreman of any department wishes to talk with some one in another department he presses the button opposite the nameplate of the station desired. This rings the bell at the called station and communication is secured without an instant's delay.



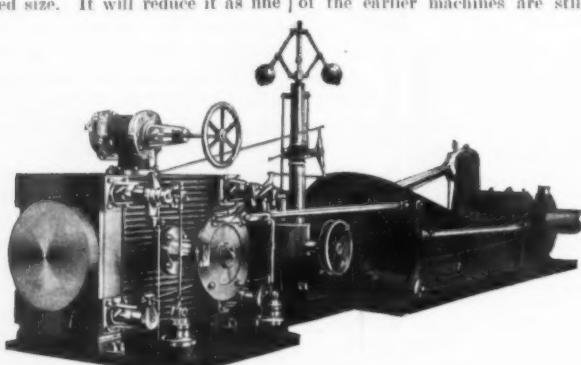
MODERN INTERCOMMUNICATING TELEPHONES.

service and speaking tubes now seem to have given way to the telephone method.

The New England Cotton Yarn Co. operates 20 separate plants, 10 located at New Bedford. This company has telephone stations installed at 31 central points in its mill. The system was de-

The features of the "Inter-phone" system in the New Bedford mills are its automatic operation and its low cost and maintenance expense. No operator is required.

Another desk set, with key-box close at hand, is in the main office of the mill. In the storeroom of the machine shop but one



GRIFFITH & WEDGE CORLISS ENGINE.

as flour if desired, and hence it is far superior to a stamp mill for mining, and infinitely cheaper, and costing far less to operate.

"It is unsurpassed for concrete work, furnishing readily material of any desired size. It will obviate the necessity for sand in concrete work by furnishing pulverized rock, so that by the addition of a small proportion of Portland cement you have an infinitely better material for concrete work than sand. Should you wish to manufacture tile of any kind, here is the very best material in the world. It is also cheaper, as no firing is necessary.

"For crushing clinkers in the manufacturing of cement our machine replaces the

and the company still furnishes repair parts for its old vertical engines and sawmills.

The company's engine is the Ohio Corliss, ranging in size from 10x30 inches to 26x48 inches, and herewith illustrated by two views.

Being located in the Zanesville clay field, the company was prompt to take advantage of the opportunity for a line of clay-working machinery for potteries.

Another department is the boiler shop, where special work is also given attention. It caters to factories, sugar refineries, etc.

The company also maintains its own gray-iron and brass foundries and machine shop, but its chief work is building



MODERN INTERCOMMUNICATING TELEPHONES.

signed and installed by the Western Electric Co. of Hawthorne, Chicago, Ill. It is known as the "Inter-phone," and is well adapted for the needs of an establishment

piece of apparatus is used to contain both the key-box and the telephone. Herewith are two views of the "Inter-phone" installation.

Construction Department

TO OUR READERS!

In order to understand and follow up properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ADDRESS FULLY

To insure prompt delivery of communications about items reported in these columns, the name of one or more incorporators of a newly incorporated enterprise should be shown on the letter addressed to that town, or to the town of the individual sought, as may be shown in the item, as sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. This will help to insure prompt delivery of your communication, although it is inevitable that some failures on the part of the postal authorities to deliver mail to new concerns will occur.

WRITE DIRECTLY

It is suggested to advertisers and readers that in communicating with individuals and firms reported in these columns, a letter written specifically about the matter reported is likely to receive quicker and surer attention than a mere circular.

The Daily Bulletin of the Manufacturers' Record is published every business day in the year for the purpose of giving the earliest possible news in regard to new industrial, railroad and financial enterprises organized in the South. It is invaluable to contractors, manufacturers, engineers and all others who want to get in touch at the earliest moment with new undertakings or the enlargement of established enterprises. The subscription price is \$25 a year. All advertising contracts in the Manufacturers' Record extending over a period of three months include a subscription for the length of time of the contract to the Daily Bulletin.

BRIDGES, CULVERTS, VIADUCTS

Ark., Van Buren.—Van Buren and Fort Smith Bridge Commission will expend \$400,000 in construction of bridge at Jefferson St.; structure to be 62 feet between hand rails, 1800 feet between abutments; Waddell & Harrington, Kansas City, Mo., engineers in charge.

La., Shreveport.—City Council adopted ordinance providing for traffic bridge over Red River at foot of Texas St.; cost not to exceed \$300,000; S. A. Dickson, Mayor. (Recently mentioned.)

Md., Annapolis.—City Council is considering construction of bridge at foot of Madison St. to span tracks of Washington, Baltimore & Annapolis Electric Railway; cost \$160,000. Address The Mayor.

Miss., Columbia.—Marion County Board of Supervisors awarded contract for construction of steel bridge across Little River to Joliet Bridge Co., Joliet, Ill.; price \$2000; work to be completed within 90 days; L. C. Wellborn, Clerk Board of Supervisors.

Miss., Meridian.—City Engineer W. G. Wetmore will prepare plans and specifications and advertise for bids on construction of two concrete bridges.

N. C., Newton.—Catawba County Commissioners will construct steel bridge across Catawba River.

Okl., Oklahoma City.—Oklahoma county Commissioners awarded contract at \$23,000 to Kansas City Bridge Co., Kansas City, Mo., for construction of 14 steel bridges in connection with canal to be constructed in Deep Fork Drainage District. (See "Drainage and Irrigation Systems.")

Okl., Tulsa.—Oklahoma Union Traction Co., A. A. Small, president, will construct 11-span bridge across Arkansas River; 130 feet each; tubes 54 inches; 27 feet high. (Recently noted.)

S. C., Greenville.—City contemplates bond of \$200,000 for street improvements and for building of Main street bridge; A. E. Sussex, City Clerk and Treasurer. (See "Road and Street Improvements.")

S. C., Spartanburg.—Spartanburg and Laurens counties will construct steel bridge across Enoree River at Van Patten Shoals; D. M. Miles, supervisor of Spartanburg county.

Tex., Beeville.—Nueces River Valley Railroad Co., Lee Friesley, general manager, 931 Congress Ave., Austin, Tex., will construct four bridges across Nueces River at three locations.

Tex., Houston.—Houston Electric Co., David Daly, manager, will rebuild White Oak Bayou trestle. (See "Road and Street Improvements.")

Tex., Houston.—Gulf, Colorado & Santa Fe Railway, F. Merritt, chief engineer, Galveston, Tex., awarded contract to Morey & Faublauer, Chemical Bldg., St. Louis, Mo., for construction of first section of railroad from Lometa to Eden, Tex., including 200-foot truss over river, with 100-foot and 60-foot girders and long trestle approach.

Tex., Sherman.—City and Texas Traction Co. will construct reinforced concrete bridge over Postoak Bayou on West Lamar St.

Va., Appalachia.—City voted issuance of \$14,000 of bonds for bridge over Powell River, sewer construction and street improvements. Address The Mayor.

W. Va., Parkersburg.—Wood County Commissioners are having plans prepared by Farris Engineering Co., Diamond Bank Bldg., Pittsburgh, Pa., for bridge recently noted to be constructed across Ohio River at Juliana St.; estimated cost \$65,000. Address engineer.

CANNING AND PACKING PLANTS

Ala., Mobile.—Lopez & Duke, Biloxi, Miss., will, it is reported, establish oyster canning on Bayou la Batre.

Ark., Little Rock.—Pulaski County Fruit Growers' Society promoting establishment of cannery.

Md., Hancock.—Elberta Fruit Farms Incorporation organized with Alfred Sisk president, Preston, Md.; will establish canneries. (See "Miscellaneous Enterprises.")

Miss., Church Hill.—F. B. Fautleroy will increase capacity of cannery.

Miss., Natchez.—Natchez Canning Co. will increase capacity of plant.

N. C., Nashville.—Hastings Industrial Co., Chicago, Ill., contemplates establishment of cannery; initial capital stock \$5000; proposed capacity 8000 to 10,000 cans daily.

Okla., Enid.—Farmers' Co-operative Packing Co., J. Y. Callahan, president, Chamber of Commerce Bldg., is completing arrangements for construction of packing plant (previously mentioned); plans call for main building 97½x173½ feet, five stories; slaughter-house and ice factory and power-house; capacity of plant 1000 hogs and 500 cattle daily; cost \$200,000.

Tenn., Chattanooga.—Chattanooga Coffee Co., care of J. E. Idle and J. N. Redus, Corinth, Miss., will establish canning factory; placed order for machinery with Jabez Burns & Son, New York; will occupy rented building temporarily.

Tex., Farmington (not a postoffice).—Glover-Forsyth Co., 611 Gibbs Bldg., San Antonio, Tex., will establish canning and preserving plant at new town of Farmington. (See "Machinery Wanted.")

Tex., Amarillo.—O. L. Williams, Chicago, Ill., is interested in establishment of packing plant; capacity 100 beeves daily.

Tex., San Antonio.—O. L. Williams, Chicago, Ill., proposes, it is reported, establishment of packing plant.

Tex., Sweetwater.—O. L. Williams, Chicago, Ill., is interested in establishment of packing plant with capacity of 100 beeves daily.

CLAYWORKING PLANTS

Md., Baltimore—Pottery.—Edwin Bennett Pottery Co. will rebuild factory recently reported burned; plans not ready for announcement.

Miss., Greenville—Brick and Tile.—Reynolds Brick & Tile Co. increased capital stock to \$50,000.

Miss., Greenville—Drainpipe, etc.—Greenville Cement Tile Co. increased capital stock \$25,000; to increase output.

N. C., Plymouth—Brick and Tile.—Plymouth Brick & Tile Manufacturing Co. incorporated with \$50,000 capital stock by W. C. Miller, E. P. Cohoon and F. E. Cohoon.

Tenn., Lawrenceburg—Brick.—Lawrenceburg Construction Co. organized with \$6000 capital stock; John Orth, president; Henry Feldhaus, secretary; will take over, enlarge and erect addition to Boullie & Orth's brick plant.

Tex., San Angelo—Bricks.—San Angelo Brick Manufacturing Co. will increase capital stock from \$20,000 to \$40,000.

Tex., Seguin—Brick.—Seguin Vitrified & Face Brick Co. increased capital stock from \$60,000 to \$75,000, and will install additional electrically-driven machinery to manufacture paving brick.

Tex., Seguin—Paving and Face Brick.—Seguin Vitrified Paving and Face Brick Co., Dr. O. G. Pearson, president, is proceeding with proposed construction of \$6800 building; all machinery supplied.

Va., Princess Anne—Tile, etc.—D. E. Peters is interested in establishment of a plant for manufacturing tile and glazed building blocks.

W. Va., New Martinsville—Bricks.—Magnolia Brick Works will double capacity; will install new equipment with exception of boilers; cost of improvements, several thousand dollars.

COAL MINES AND COKE OVENS

Ala., Cordova.—Oak Leaf Coal Co. organized with \$50,000 capital stock; George M. Webb, president; Dr. Aaron LaFayette Harlan, vice-president; R. C. Bush, second vice-president; H. F. Kerber, secretary-treasurer; Joseph S. Shannon, general manager, 625 Woodward Bldg., Birmingham, Ala.; will build spur track of about two miles and make three openings on 1200 acres; drift mine; contemplated capacity within the year, 1000 tons coal daily. (See "Machinery Wanted.")

Okla., Oklahoma City.—Continental Coal Co. incorporated with \$200,000 capital stock by E. R. Newblock and R. R. Bell of Oklahoma City, E. R. Morgan of Altus, Okla., and others.

Tenn., Memphis.—Memphis Coal Co. incorporated with \$20,000 capital stock by C. B. Bryan, Charles S. Eberhardt, Charles M. Bryan and others.

Tenn., Orme.—Tennessee River Coal Co. is proceeding with plan to develop 5000 acres coal land; will install electrical plant with daily output of 800 tons coal; G. H. Crozer, engineer in charge, South Pittsburg, Tenn.; R. F. Kilpatrick, general manager, New York.

Va., Norfolk.—Lunenburg Mining Corporation incorporated with authorized capital stock of \$200,000; H. Goodman, president; F. A. Alberdi, vice-president; M. Broudy, secretary-treasurer.

Va., Dorchester.—Big Sandy Fuel Corporation incorporated with authorized \$500,000 capital stock; M. M. Morgan, president; N. S. Meldrum, vice-president; W. E. Decker, secretary-treasurer, all of New York.

W. Va., Clarksburg.—Peacock Coal Co. incorporated with \$50,000 capital stock by H. C. Brooks and F. L. P. Brooks, both of Clarksburg; Thomas G. Aultman, Fairmont, W. Va., and others.

W. Va., Clarksburg.—Imperial Carbon Co. incorporated with \$50,000 capital stock by Robert Hunter, Wm. W. Wheatley, L. D. Shank and others.

W. Va., Gentry.—New River & Pocahontas Consolidated Coal Co., 308 Betz Bldg., Philadelphia, Pa., contemplates installation of 1500-horse-power steam turbo-generator set, together with auxiliary apparatus in powerhouse; reported that company will purchase electrical mining tools and coal-handling machinery.

CONCRETE AND CEMENT PLANTS

Okla., Enid.—People's Realty Co. purchased \$3000 cement-block machine to have estimated capacity of 300 blocks daily; will be installed in temporary shed, 50x50 feet.

Tenn., Kingsport.—Clinchfield Portland Cement Corporation (recently reported organized, etc., with John A. Miller of Nazareth, Pa., president and engineer in charge) awarded contract to R. T. & C. D. Stewart Construction Co., Easton, Pa., to construct plant; buildings of concrete and steel construction; daily capacity, 3000 barrels of cement; estimated cost, \$300,000.

Tex., Quanah.—D. Waterhouse will erect plant to manufacture cement blocks, steps, etc.

COTTON COMPRESSES AND GINS

Ga., Albany.—Rawlins Gin Co. incorporated with \$9000 capital stock by R. G. Riley, W. W. Rawlins, S. B. Brown and others.

Miss., Rich.—Rich Ginning Co. incorporated with \$10,000 capital stock by J. W. Cutrer, W. F. Rainey and others.

Miss., Seminary.—Company will be incorporated with T. W. Crawford president to establish cotton gin. (See "Lumber-manufacturing Plants.")

Tex., Manor.—Roney Allison will erect cotton gin.

Tex., Pandora.—Farmers' Co-operative Gin Co. incorporated with \$10,000 capital stock; J. C. Daneror, president; B. P. West, vice-president; J. M. Spear, Jr., secretary; C. Sikes, treasurer; will erect building.

COTTONSEED-OIL MILLS

Ala., Montgomery.—Farmers' Cotton Oil Co. incorporated with \$75,000 capital stock by G. N. Hinson, president, I. S. Stanton and Thomas E. Lovejoy; will (as recently reported) erect cotton-oil mill.

Miss., Seminary.—Company is being incorporated with T. W. Crawford president to establish cottonseed meal and oil mill. (See "Lumber-manufacturing Plants.")

Tex., Forney.—T. J. Pinson and M. L. Moore contemplate establishment of cottonseed oil mill.

DRAINAGE AND IRRIGATION SYSTEMS

N. C., Moyock.—Moyock Drainage District No. 1 will open bids March 8 for construction of ditches; A. B. Lukens Chairman Drainage Commissioners. (See "Machinery Wanted.")

Okla., Minco.—Grady County Commissioners, Chickasha, Okla., will expend \$23,000 in draining 2000 acres of land on Boggy Creek.

Okla., Oklahoma City.—Oklahoma County Commissioners awarded contract, at 7.74 cents per cubic yard, to G. H. Keegan, Fort Wayne, Ind., to construct canal about 13½ miles through Deep Fork Drainage District No. 1, and to Kansas City (Mo.) Bridge Co. to construct bridges to cross canal; estimated total expenditure \$100,000. (Recently mentioned.)

Tex., Cotulla.—Cotulla Water & Irrigation Co. incorporated with \$2000 capital stock by Joseph Cotulla, Simon Cotulla and Joseph Cotulla, Jr.

Tex., Mission.—Mission Canal Co. incorporated with \$331,422 capital stock by John J. Conway, James W. Holt and W. E. Pope.

ELECTRIC-LIGHT AND POWER PLANTS

Ala., Opelika.—City will vote March 28 on issuance of \$85,000 of bonds for electric light plant and water-works. Address The Mayor.

Ala., Sylacauga.—City voted bond issue for construction of electric light plant. Address The Mayor.

Ark., Booneville.—Booneville Light & Water Co. contemplates construction of electric-power plant and pumping station, to be operated by hydraulic turbines.

Ark., Eureka Springs.—Eureka Springs Electric Co. incorporated with \$100,000 capital stock; Henry C. Brent, president; Justin D. Bowersock, vice-president; A. M. Barron, secretary-treasurer.

Ark., Hardy.—Dr. Buford, Memphis, Tenn., is consulting it is reported, with Hardy Mill Co. relative to organization of company to construct electric-light and water plant; new company proposes to obtain control of water-power owned by milling company.

Ark., Womble.—Walter E. Womble and associates contemplate development of water-power to operate proposed cotton mill. (See "Textile Mills.")

Ga., Athens.—James White Power Co., C. D. Flanigan, chief engineer, awarded contracts for plant, as lately stated; dam 800 feet long, averaging 43 feet high, with 550-foot railway, of gravity type constructed entirely of reinforced concrete without apron on down stream side; power-house of reinforced concrete and will contain four 700-kilowatt units for generating alternating current at 12,000 volts, 100-kilowatt exciter unit, 100-kilowatt motor generator exciter set and necessary switches, switchboards and transformers to control current, which will be transmitted over two circuits 12 miles long to Athens; upon completion plant will be leased and operated by Athens Electric Railway Co., which will distribute current from substation outside city limits; cost of plant about \$300,000; contractor for dam and power-house, Amburson Hydraulic Construction Co., 176 Federal St., Boston, Mass.; contractor for machinery, Allis-Chalmers Company, Milwaukee, Wis.

Ga., Dalton.—City contemplates voting on issuance of bonds for improvements to light plant. Address Mayor Trammell.

Ga., LaFayette.—City will vote March 22 on issuance of \$40,000 of bonds for construction of electric-light plant and water-works. Address The Mayor. (Recently mentioned.)

Mo., Trenton.—City will vote in April on issuance of bonds for construction of electric-light plant; O. G. Williams, Mayor.

N. C., Albemarle.—City awarded contract to Tucker & Laxton, Charlotte, N. C., for erection and equipment of electric-lighting plant; J. M. Bandy, Greensboro, N. C., is engineer; \$20,000 bond issue available. (Recently mentioned.)

Okla., Wetumka.—City voted \$36,000 electric-light bonds. Address The Mayor.

Tenn., Decherd.—City is considering construction of electric-light plant. Address The Mayor.

Tenn., Morristown.—City Council authorized appropriation of \$10,000 for extension of light and water plants. Address The Mayor.

Tenn., Onion.—City will vote March 19 on issuance of \$35,000 of bonds for electric-light and water plants. Address The Mayor.

Tenn., Trenton.—City will vote March 26 on issuance of \$12,000 of bonds for construction of electric-light plant. Address The Mayor.

Tex., Forney.—Forney Electric Light & Ice Co. will be incorporated with Yancey McKellar president, and Edward D. McKellar secretary.

Tex., Grapevine.—J. W. Day, Fort Worth, Tex., will construct electric-light plant. (See "Ice and Cold-Storage Plants.")

Tex., Houston.—W. W. Baldwin, president South End Land Co., Burlington, Iowa, is considering construction of electric-light plant in connection with development of Westmoreland farms and townsite of Belaire.

Tex., Huntsville.—Huntsville Electric Light & Power Co. elected C. G. Barrett, president; J. G. Ashford, vice-president and general manager; W. S. Gibbs, secretary; G. A. Wynne, treasurer; awarded machinery contract to Fairbanks, Morse & Co., main office, Wabash Ave. and Eldredge Pl., Chicago, Ill. (Recently noted.)

Tex., Plainview.—Malone Light & Ice Co. (recently reported incorporated with \$30,000 capital stock) will operate ice and electric-light plant; R. C. Malone, president; R. M. Malone, vice-president; Chas. A. Malone, secretary and manager; Chas. A. Malone, treasurer.

Va., Fredericksburg.—City Council granted electric light franchise to Mrs. E. C. L. Fitch, president Rappahannock Electric Light & Power Co.

Va., Williamsburg.—City will sell franchise for electric-light and power system; bids to be opened March 23; John L. Mercer, chairman water committee. (See "Machinery Wanted.")

W. Va., Beckley.—Mr. Davis has petitioned for franchise to construct electric system for lighting streets and buildings and operating railway; plan is to develop water-power of Piney River to secure power for operating dynamos, which are to be located at Worley.

W. Va., Ravenswood.—City is prepared to receive proposals for water-works franchise; offers to sell present electric-light plant to water-works owners. Address The Mayor.

W. Va., Wheeling.—Warner Arc lamp Co., Wilton Junction, Ia., submitted proposition to City Council for construction of electric light system. C. C. Smith, City Engineer.

FLOUR, FEED AND MEAL MILLS

Miss., Seminary.—Company will be incorporated with T. W. Crawford president to establish grist mill. (See "Lumber-manufacturing Plants.")

Mo., Hughesville.—Hughesville Milling Co. awarded contract to Robinson Manufacturing Co. for sifter, with four-stand roll system.

N. C., Durham.—Southern Pure Food Co., W. N. Holloway, president, purchased building and will establish meal mill.

Tex., Quanah.—Consolidated Alfalfa Manufacturing Co., Oklahoma City, Okla., has made proposition to establish alfalfa and milo maize feed mill with \$20,000 capital stock.

FOUNDRY AND MACHINE PLANTS

Ala., Birmingham—Cotton Gins.—Universal Fiber Gin Co. contemplates building plant to assemble and finish cotton gins; plans awarding contract for manufacture of 10,000 to 20,000 gins for next cotton crop in Alabama, Mississippi, Louisiana and Arkansas; materials for construction, iron and steel; when details have been determined, they will be announced; president, Lord Deerhurst of London, England; first vice-president, George F. Whiting, North Ave. and Chester St., Baltimore, Md.; second vice-president, Thomas L. McGowan; offices, suite 2113-14 Singer Bldg., 19 Broadway, New York.

Fla., Archer—Iron and Brass Castings.—Maddox Foundry & Machine Co. will make improvements to plant; will erect 40x115-foot addition to machine shop and 40x30-foot additions (each) to pattern and blacksmith shops; will install machinery. (See "Machinery Wanted.")

Ga., Norcross—Plows, etc.—Georgia Plow & Implement Co. Incorporated with \$10,000 capital stock by Samuel C. Dunlap of Gainesville, Ga.; Don K. Johnson, Milton L. Livey, both of Atlanta, Ga., and others; will take over Buchanan Plow Co.

La., Lake Arthur.—Lake Arthur Oil Co. Incorporated with \$50,000 capital stock; V. A. Miller, president; J. T. McGraw, first vice-president; Alcibiades Broussard, secretary; C. B. Rybiski, treasurer.

N. C., High Point—Machine Shop.—Dalton Furniture Co. awarded contract for erection of addition to machine shop; 30x50 feet.

W. Va., St. Albans—Foundry.—Atkinson Foundry & Steel Co. will enlarge plant.

Tenn., Chattanooga.—Carolina Ice Machine Co., Charlotte, N. C., will not at present establish Chattanooga plant to manufacture ice machines. (Recently noted.)

Tenn., Memphis—Stave Machines.—J. J. Russell, Minneapolis, Minn., is considering Memphis as location for proposed plant for manufacturing stave machines.

Tenn., Beaumont—Iron Works.—Beaumont Iron Works Incorporated with \$100,000 capital stock by C. L. Walls, W. C. Averill and T. S. Reed.

Tenn., Penn City (postoffice Houston)—Dredge Machinery, Marine Engines, etc.—American Iron Works, George Guild, manager (recently noted incorporated with \$5,000 capital stock), will establish plant to manufacture dredge machinery, marine engines and general work; will install full equipment of heavy machine tools, including 1200 to 1800 pound steam hammer, travelling cranes, etc.; will build 60x250-foot machine shop, 60x100-foot foundry, and 60x60-foot blacksmith shop; plans and construction by Mr. Guild; construction of marine ways contemplated; company's officers not yet elected. (See "Machinery Wanted.")

GAS AND OIL DEVELOPMENTS

Ky., Princeton.—Independence Oil & Mining Co. Incorporated with \$200,000 capital stock by F. G. Wood, C. M. Wood, Princeton, and C. W. Wood, Otter Pond, Ky.

Mo., Liberty.—Samuel Diemer has franchise to furnish city with natural gas.

Okla., Oklahoma City.—Big State Oil Co. Incorporated with \$10,000 capital stock by E. A. Stirling, A. F. Goebel, W. Goebel and M. L. Sterling.

Okla., Sapulpa.—Dayton Oil & Gas Co. Incorporated with \$25,000 capital stock by D. L. Grimm of Sapulpa, T. E. Farr and C. F. Robertson, both of Klefer, Okla.

Tenn., Rutherford and Bedford Counties—East Tennessee Development Co. Incorporated with \$100,000 capital stock; P. W. Clark, president, Lebanon, Tenn.; W. S. Duckworth, vice-president; D. T. Blakey, secretary; W. G. Schamberger, treasurer, Galatin, Tenn.; leased and will develop 19,000 acres of oil land.

Tex., Beaumont.—Dorwin Oil Co. Incorporated with \$15,000 capital stock by Peter Lamp, Max Vieweger, Claus H. Lamp and others.

Tex., Houston Heights.—H. W. Bennett applied for 50-year gas franchise.

Tex., Houston.—The Texas Company will, it is reported, construct natural-gas pipe lines from Caddo field to Port Arthur, Beaumont and intermediate points and by forking between Shreveport and Houston convey natural gas to Houston; also reported to construct gas line at same time from same point to Dallas, Tex.

Tex., Jefferson.—Citizens' Gas & Oil Co. Incorporated with \$10,000 capital stock by R. B. Walker, T. J. Rogers and W. B. Ward.

W. Va., Clarksburg.—Imperial Carbon Co. Incorporated with \$50,000 capital stock by Robert Hunter, Wm. W. Wheatley, L. D. Shank and others.

W. Va., Grafton.—Gladys Creek Oil & Gas Co. Incorporated with \$10,000 capital stock by John F. Phillips of Fairmont, W. Va.; B. Z. Holoverstatt, John T. McGraw, both of Grafton, and others.

W. Va., Parkersburg.—Rutherford Brothers Company Incorporated with \$50,000 capital stock by F. H. Rutherford of Zanesville, O.; S. T. Rutherford, W. H. Rutherford, both of Petroleum, W. Va., and others.

W. Va., Parkersburg.—Rector Oil Co. Incorporated with \$50,000 capital stock by C. W. Swisher, Charlestown, W. Va.; T. R. Cowell, W. J. Clark, Parkersburg, and others.

W. Va., Salem.—Flint Natural Gas Co. Incorporated with \$15,000 capital stock by C. A. McKinley, W. B. Holden, S. L. While and R. H. James.

ICE AND COLD-STORAGE PLANTS

Fla., Tampa.—Crenshaw Bros. will expend \$2,769 to erect produce and feed house, with cold-storage compartment; size, 86x87 feet; two stories; brick; second floor to be supported by steel girders; contract recently noted awarded to J. C. McNeill & Co., Tampa, and N. J. Sutton, Jacksonville, Fla.

Ky., Ashland.—Ohio Valley Mill & Supply Co. will install refrigerating plant.

Okla., Custer.—Custer Ice Co. Incorporated with \$12,000 capital stock by R. E. Campbell, Wm. A. Seymour, C. O. Leeka and S. L. Darrah.

Tex., Boerne.—Boerne Dairy Feed Co. contemplates building ice factory and creamery; will purchase and install machinery. (See "Machinery Wanted.")

Tex., Grapevine.—J. W. Day, Fort Worth, Tex., will establish electric-light and ice plant; material and supplies purchased.

Tex., Huntsville.—Huntsville Ice Co. (recently noted) will not install new machinery; elected C. G. Barrett, president; J. G. Ashford, vice-president and general manager; W. S. Gibbs, secretary; G. A. Wynne, treasurer; C. H. Robinson, superintendent.

Tex., Plainview.—Malone Light & Ice Co., R. C. Malone, president (recently noted) will operate ice and electric-light plant. (See "Electric-light and Power Plants.")

IRON AND STEEL PLANTS

Tenn., Memphis.—Steel Construction Materials.—Allen Engineering Co., Hill Bldg., Jr., president, Birmingham, Ala., received preliminary report from Meade & Huey, engineers, for development of industrial city; plan calls for 87,350 linear feet combination cement curb and gutter, 13,600 linear feet cement curb, 46,650 square yards cement sidewalks, 88,477 square yards macadam streets, 32,411 square yards paved street, 2½ miles storm sewers, 8½ miles sanitary sewers (various sizes), 8½ miles each of water and gas mains; will require 20,000 barrels of cement for improvements, exclusive of street paving; cost of above improvements, \$36,000; will expend several hundred thousand dollars for erection of residences for employees of Tennessee Coal, Iron & Railroad Co.; present plan calls for civic center with schools, park, playgrounds for children, drainage system and several sites for churches; will let contracts in about 15 days for grading and other improvements. (Previously mentioned.)

W. Va., Wheeling—Iron and Steel Sheets.—Whitaker-Glessner Co. will increase capital stock from \$3,000,000 to \$5,000,000.

LAND DEVELOPMENTS

Ala., Ensley.—Corey Land Co., Robt. Jimison, Jr., president, Birmingham, Ala., received preliminary report from Meade & Huey, engineers, for development of industrial city; plan calls for 87,350 linear feet combination cement curb and gutter, 13,600 linear feet cement curb, 46,650 square yards cement sidewalks, 88,477 square yards macadam streets, 32,411 square yards paved street, 2½ miles storm sewers, 8½ miles sanitary sewers (various sizes), 8½ miles each of water and gas mains; will require 20,000 barrels of cement for improvements, exclusive of street paving; cost of above improvements, \$36,000; will expend several hundred thousand dollars for erection of residences for employees of Tennessee Coal, Iron & Railroad Co.; present plan calls for civic center with schools, park, playgrounds for children, drainage system and several sites for churches; will let contracts in about 15 days for grading and other improvements. (Previously mentioned.)

Tex., Waller.—Waller Improvement Co. Incorporated with \$10,000 capital stock by Robert H. Hunter, William B. Fordran and C. C. Cunningham.

Va., Richmond.—Avondale Land Co. Incorporated with \$25,000 capital stock; L. O. Miller, president; Warner Moore, vice-president; M. A. Powers, secretary-treasurer.

Virginia.—Virginia Land Co., F. S. Bauder, vice-president, 418 American Trust Bldg., Cleveland, Ohio, Incorporated with \$20,000 capital stock to locate settlers in South and secure establishment of industrial enterprises.

W. Va., Norfolk.—Interstate Land & Investment Co. Incorporated by W. H. Sperow, Walter Proctor and others.

Stock by H. C. Davidson, T. H. Moore, L. B. Farley and others.

Ark., De Queen.—West-Otis Lumber Co. (recently reported incorporated under "Lumber-Manufacturing Plants"), G. E. Otis, secretary-treasurer, will establish town near De Queen to be known as Otis; will erect number of buildings, etc.

Ark., Little Rock.—North Arkansas Land Development Co. Incorporated with \$25,000 capital stock by N. W. Yore, R. D. Duncan and C. M. Duncan.

Fla., Hillsboro County.—Thomas & Walter, Chicago, Ill., have, it is reported, purchased 21,000 acres of land for \$100,000, and will colonize.

Ga., Decatur.—Forest Adair, Atlanta, Ga., purchased 80 acres of land near Decatur and will develop as residential section; will grade Ponce de Leon Ave. and make other improvements; this land purchased by Mr. Adair, as representative of Druid Hills Corporation, which now owns 1572 acres, extending from Atlanta to Decatur; approximately \$500,000 is being expended on improvements previously noted, including sewerage, water and gas mains, paving, parks, driveways, etc.; plans by Olmstead Bros., Brookline, Mass.

Ga., Tifton.—South Georgia Colony Co. will be incorporated with \$100,000 capital stock by I. A. Fulwood, W. A. Puckett and C. C. Thomas, president, vice-president and secretary-treasurer, respectively, of Georgia-Florida Land & Investment Co., recently reported incorporated; has option on 3540 acres of land near Tifton, which it plans to develop; plan is to subdivide portion of tract into farms ranging from 10 to 100 acres and establish town on railroad; cost of contemplated improvements, \$55,000.

Miss., Pass Christian.—Fort Henry & Gulf Coast Realty Co., recently reported incorporated with \$25,000 capital stock, contemplates improvements to tract of land known as Fort Henry; will level fortifications, construct streets and clear land; cost of improvements \$5000; A. L. De Jong, engineer in charge; day's labor; Chas. R. Rollison, president; A. L. De Jong, vice-president; Wesley Williams, secretary-treasurer.

N. C., Charlotte.—Forest Hill Realty Co. (recently reported incorporated with \$50,000 capital stock by J. L. De Laney and others) will develop 30 acres of land for residential section.

N. C., Edgemont.—Edgemont Company (recently reported incorporated with \$25,000 capital stock to develop townsite, etc.) has no contracts to let; company's force is developing townsite and summer homes on land owned by company; in connection with Watauga Turnpike Co. (same owners), have for main object the development of Grandfather Mountain lands in Caldwell, Watauga and Mitchell counties; W. A. Barber, president, New York; L. T. Nichols, vice-president, Chester, S. C.; C. E. Rabb, corresponding secretary; J. R. Ervin, manager and engineer, Lenoir, N. C.

Tex., Coleman.—Tuscola Townsite Co. Incorporated with \$7000 capital stock by A. F. Martin, R. M. Love and M. H. Crockett.

Tex., Dallas.—Dallas Realty & Improvement Co. awarded contract to J. W. Maxcy Company, Dallas, for topographical surveys, etc., for development of Dallas property, consisting of 1200 acres of land between Dallas and Fort Worth, Tex.; plans call for macadam drives and roadways, bridges, cement sidewalks and curbs, complete water system, electric-light, heating, power and ice plants, sewerage and sewage disposal systems, natural gas distributing mains and ornamental poles set in concrete for electric-light and telephone wires; cost of improvements, between \$300,000 and \$400,000. (Recently mentioned under "Miscellaneous Enterprises.")

Tex., Waller.—Waller Improvement Co. Incorporated with \$10,000 capital stock by Robert H. Hunter, William B. Fordran and C. C. Cunningham.

Va., Richmond.—Avondale Land Co. Incorporated with \$25,000 capital stock; L. O. Miller, president; Warner Moore, vice-president; M. A. Powers, secretary-treasurer.

Virginia.—Virginia Land Co., F. S. Bauder, vice-president, 418 American Trust Bldg., Cleveland, Ohio, Incorporated with \$20,000 capital stock to locate settlers in South and secure establishment of industrial enterprises.

W. Va., Norfolk.—Interstate Land & Investment Co. Incorporated by W. H. Sperow, Walter Proctor and others.

LUMBER-MANUFACTURING PLANTS

Ala., Montgomery.—Fidelity Lumber Co. Incorporated with \$10,000 capital stock by N.

B. Marks, Charles P. Marks and John S. Marks, Jr.

Ark., Huttig.—Wisconsin Lumber Co., Chicago, Ill., awarded contract to T. R. Helms for erection of double band mill; to develop 200,000,000 feet of timber; will equip with two band saws and machinery for manufacturing hubs, belt rims and wagon stock; awarded contract for boilers to Casey-Hedges Company, Chattanooga, Tenn., and for engine to Southwark Foundry & Machine Co., Philadelphia, Pa. (Recently mentioned.)

Ark., Jonesboro.—C. A. Stuck & Sons will erect two-story addition to planing mill; increase capacity 150 per cent.

Ark., Mohawk.—Mohawk Lumber Co. incorporated with \$50,000 capital stock by Gus Kohn (president), A. A. Reid and W. D. Wingfield.

Ark., Nettleton.—Michigan-Arkansas Lumber Co., main office, 805 Majestic Bldg., Detroit, Mich. (previously noted to purchase about 5000 acres timber land and establish band mill), will erect mill with approximate daily capacity of 40,000 feet hardwood lumber; main building, 34x88 feet; wood construction with steel roof; brick boiler-house and engine-room 67x27 feet; fireproof construction with steel roof; mill equipment and power plant purchased; material mainly supplied.

Fla., Fernandina.—L. G. Hirth purchased 7500 acres of turpentine land in Nassau county between Fernandina and Yulee for \$2,000.

Fla., Tampa.—Atlantic & Gulf Land & Timber Co. changed name to Gulf Land & Timber Co. and increased capital stock from \$10,000 to \$25,000.

Ga., Hartense.—Gress Manufacturing Co. will erect sawmill; capacity 12,000 feet of lumber daily; replace plant previously burned.

Ia., Hammond.—McCarroll Lumber Co. will increase capital stock to \$75,000; has completed erection of proposed buildings.

Miss., Croftstown.—Jones County Lumber Co. (recently noted incorporated with \$50,000 capital stock by Geo. S. Leatherbury and others) purchased plant of Graham Lumber Co.; plant equipped; daily capacity, 40,000 feet pine lumber.

Miss., Jackson.—Imperial Lumber Co. incorporated with \$10,000 capital stock by P. D. Baker, J. R. Budd and others.

Miss., Monticello.—S. A. Kussman will erect structure and equip for shingle mill.

Miss., Seminary.—Company will be incorporated with T. W. Crawford president and J. W. Watson vice-president and superintendent; will establish saw, grist, cottonseed oil and meal mills and cotton gin at Watson Falls; will utilize water-power which has estimated capacity of 3000 horse; cost of plant, \$100,000.

Mo., Conran.—Conran Cooperage Co., O. B. Gwyn, president, will operate lumber plant with daily capacity of 20,000 feet lumber.

N. C., Charlotte.—J. H. Wear & Co. incorporated with \$125,000 capital stock by W. R. Wear, J. H. Wear, Geo. W. Wear and K. R. Trotter.

N. C., Lumberton.—Kingsdale Lumber Co., F. Slitterding, president, main office, Richmond, Va., will erect sawmill previously noted; ordinary construction; size 40x152 feet; contractors, Clark Bros., Belmont, N. Y.; complete sawmill and planing-mill machinery to be installed; daily capacity, 50,000 feet North Carolina dressed pine.

Okla., Enid.—Oklahoma Timber Co. incorporated with \$100,000 capital stock by A. B. Chatiek, O. F. Hakel, H. S. Moreland and others.

Okla., McAlester.—Casto Creek Lumber Co. incorporated with \$25,000 capital stock by G. F. Hartshorn, E. S. Lewis and Lewis A. Ellis.

S. C., Columbia.—N. C. McDuffie Lumber Co. increased capital stock from \$25,000 to \$50,000.

S. C., Lumber.—Williams & McKeithan Lumber Co. will rebuild plant recently reported burned; loss \$60,000.

Tex., Henderson.—Henderson County Lumber & Planing Mill Co. increased capital stock from \$25,000 to \$50,000.

Tex., Nacogdoches.—W. D. Carriker of Carriker & Daniels are reported as purchasing 100 acres of timber land and to erect mill.

Tex., Dawson.—Dawson Lumber Co. incorporated with \$6000 capital stock by J. M. Lee, J. F. Williams and H. Silbert.

Tex., Lott.—Falls County Lumber Co. incorporated with \$20,000 capital stock by W. L. Reynolds, J. L. Markham, both of Lott, and J. T. Davis of Waco, Tex.

W. Va., Elkhurst.—Elkhurst Lumber Co.

Incorporated with \$50,000 capital stock by D. L. Arnold, Jane Lew, B. C. Eakle, Clay, W. Va., and others.

W. Va., Giles County.—Patrick & Roher, Bluefield, W. Va., and Leas & McVitty, Pearisburg, Va., will probably sell to Pittsburgh (Pa.) capitalist 36,000 acres of timber land on Wolf Creek, Giles County.

W. Va., Ingleside.—Ben Johnson and associates of Narrows, Va., sold to Connecticut firm about 8000 acres of land containing several hundred acres of timber land for \$16,000.

W. Va., St. Albans.—Standard Timber Co. incorporated with \$150,000 capital stock by H. B. Smith, Buckner Clay, R. S. Spilman and others.

METAL-WORKING PLANTS

W. Va., Wheeling.—Sheet-metal Ware—Grafton Construction Co. (manufacturers of galvanized-iron cornice, etc.) will incorporate and install stamping presses for manufacture of sheet-metal stamped and piece ware and metal specialties.

MINING

Ala., Birmingham—Iron.—Pratt Ore Co. incorporated with \$2000 capital stock; G. B. McCormick, president; Erskine Ramsay, secretary; Griffin Lamkin, vice-president, general manager and treasurer.

Ala., Gadsden.—Hammond-McDuffy Mining Co. Incorporated with \$2000 capital stock by J. W. Hammond, N. H. McDuffy and R. W. Crone.

Ark., Mena—Slate.—American Slate Co., W. E. Harvey, president, 400-418 Century Bldg., Kansas City, Mo., will develop 169 acres slate land; average daily product at start, 40 square feet roofing slate; capacity to be increased; machinery purchased; D. W. Carter, manager. (Mr. Carter and others recently noted purchasing slate lands.)

Mo., Joplin—Lead and Zinc.—Heicma Land & Mining Co. incorporated with \$200,000 capital stock by William H. Barnett of Kansas City, Mo.; Charles F. Noble, William M. Pye and James F. Gallagher, all of Joplin.

Mo., Joplin—Lead and Zinc.—Gundling Zinc & Lead Co. (recently reported incorporated with \$500,000 capital stock, Charles H. Baldwin, president, and to develop 13½ acres of lead and zinc property) awarded contract for 50-ton concentrating plant, estimated to cost \$45,000; plans output of 50 tons zinc daily; will erect power-house 50x76 feet; brick; fireproof; equipped with 1400-foot Nordberg-Corliss cross-compound mill engine, both running condensers; three 150-horsepower boilers, internally fired, with long furnaces; mill building 28x100 feet; ironclad; equipped with crushers, rolls, jigs, sludge tables, etc., which have been purchased.

Mo., Springfield—Lead and Zinc.—Springfield & Aurora Mining Co. incorporated with \$50,000 capital stock by George E. Ward, D. W. Davies, J. E. Snavely and others.

Okla., Miami.—Honna Mining & Milling Co. incorporated with \$50,000 capital stock by F. L. Rhodes, S. F. Verner, R. C. Westernberg and others.

Okla., Muskogee—Sand.—Yeholt Sand Co. incorporated with \$15,000 capital stock by W. S. Dills, T. J. Sidener and J. W. Shannon.

S. C., Savannah—Mica.—Mr. Moore, Atlanta, Ga., leased from A. B. Sullivan, Anderson, S. C., mica mining right on 100 acres of land and will develop.

Tenn., Memphis—Stone and Gravel.—Consolidated Stone & Gravel Co. Incorporated with \$100,000 capital stock by W. B. Troy, L. K. Thompson, G. E. Graper and others.

Tenn., Mt. Pleasant—Phosphate.—International Agricultural Corporation, U. S. Realty Bldg., 115 Broadway, New York, is having plans prepared for building and equipment of 200-ton phosphate washer plant; Granbery Jackson, engineer, Nashville, Tenn. (See "Machinery Wanted.")

Tex., Houston—Gravel.—Galveston, Harrisburg & Houston Transportation Co. increased capital stock from \$100,000 to \$150,000; will expand \$40,000 for development of gravel holdings on Brazos River.

W. Va., Elvinton—Manganese.—Flat Creek Mining Co., C. T. Saunders, president, has placed order for machinery; will have daily output of one to five tons manganese.

W. Va., Greenbrier County.—Sherwood Mineral Co. of West Virginia incorporated with \$25,000 capital stock by Warren B. Hunting, 24 West 25th St.; Wm. H. Hudgings and Wm. C. Schmeisser, both of 213 Courtland St., and others, all of Baltimore, Md.

MISCELLANEOUS CONSTRUCTION WORK

Ark., Woodson—Lock and Dam, etc.—Woodson Levee District Board, Gordon Greenfield,

president, awarded contract to Nick Peay, Little Rock, Ark., for construction of lock and dam and nine culverts on levee recently mentioned; Adams & Peterson, Fort Worth, Tex., have contract to construct levee; Lund & Hill, 20½ West 2d St., Little Rock, Ark. are engineers.

Fla., New Smyrna—Canal.—Howe & Currier will construct canal; 6½ miles long; contains 140,000 cubic yards of earth, mostly sand; bids to be opened March 17; D. D. and C. M. Rogers, Daytona, Fla., are engineers. (See "Machinery Wanted.")

Ga., Debrane—Dam.—Richmond Development Co. awarded contract to J. Washington Adams, Augusta, Ga., to rebuild dam of Richmond Factory; will make other improvements, expending total of about \$10,000.

Tenn., Knoxville.—Louisville & Nashville Railroad, W. H. Courtenay, chief engineer, Louisville, Ky., having changed plans, will not construct 520-foot tunnel recently noted in connection with railway extension.

Tex., Austin—Dike.—City awarded contract to Ray McDonald of Austin to construct dike between new bridge and South Austin; dike to be 1780 feet long and from 40 to 48 feet wide; estimated to require 36,000 yards of dirt. (Recently mentioned.)

Va., Norfolk—River Tunnel.—Lynnhaven Terminal Corporation, J. Edward Cole, secretary, has petitioned city for privileges necessary in proposed construction of tunnel under Elizabeth River and Smith's Creek to connect Portsmouth and Norfolk; plan is for closed tunnel 3000 feet long, with approaches; stone and concrete construction; estimates not prepared; engineer in charge, Frank L. Nicholson.

Va., Roanoke—Tunnels.—Norfolk & Western Railroad, C. S. Churchill, chief engineer, awarded contract to Carpenter & Bowley of Roanoke to construct several tunnels east of Huger, W. Va. (Contract recently reported awarded to J. R. Serpell & Son, Louisville, Ky., has been rescinded.)

MISCELLANEOUS ENTERPRISES

Ala., Birmingham—Construction.—Watson Construction Co. incorporated with \$5000 capital stock; W. L. Woodruff, president and treasurer; W. L. Watson, vice-president and general manager; C. W. Woodruff, secretary.

Ala., Birmingham—Amusement Park.—Mountain Lake & Amusement Co., R. W. Wright, president, recently reported incorporated to establish summer resort, will increase capital stock to \$50,000; will develop 40 acres of land, 20 acres being used as lake.

Ark., Fort Smith—Bridge Construction, etc.—Arkansas Bridge Co., First National Bank Bldg., recently noted incorporated (under "Bridges, Culverts, Viaducts, Etc.") with \$25,000 capital stock, will conduct steel and concrete construction work and deal in municipal bridge bonds, etc.; A. E. Black, president and treasurer, St. Louis, Mo.; Samuel McLoud, vice-president; Harry T. Daily, secretary.

Ark., Paris—Publishing.—John I. Baker will erect newspaper plant.

Fla., Jacksonville—Terminals.—Jacksonville Deep Water Terminals incorporated with \$300,000 capital stock; W. M. Tooher, president, Jacksonville; C. W. Deen, vice-president, Lakeland, Fla.; E. V. Tooher, secretary; C. B. Rogers, treasurer, both of Jacksonville.

Fla., Tampa—Laundry.—Troy Steam Laundry incorporated with \$10,000 capital stock; G. W. Cline, president and manager; E. A. McConnell, vice-president; M. B. McConnell, secretary-treasurer.

Ga., Atlanta.—City voted \$50,000 of bonds for construction of crematory; R. M. Clayton, City Engineer. (Previously mentioned.)

Georgia.—Georgia Development Co. incorporated with \$100,000 capital stock by E. E. Rothchild, 49 Wall St., New York, and others.

Ga., Jackson—Garage, Blacksmith Shop, etc.—J. B. Carmichael will erect building for garage, blacksmith shop and store.

Ga., Pritchard Station (not a postoffice)—Model Farm.—Chamber of Commerce, Savannah, Ga., leased 50 acres of county farm; will clear and develop as model farm, erect barn for stock and farming implements; later erect overseer's residence, etc.; James M. Johnson will be manager.

Ky., Carlisle—Tobacco Redrying Plant.—Nicholas County Board of Control is planning to establish tobacco redrying and rehandling plant.

Ky., Lexington—Laundry.—Model Laundry Co. incorporated with \$6000 capital stock by Fannie Bullock, Kirby Muir and J. W. Rodes, Sr.; will establish laundry, cleaning and dyeing plant.

Ky., Paducah—Hardware.—Hart-Lockwood

Hardware Co. incorporated with \$10,000 capital stock by Edison Hart, J. W. Lockwood, Robert L. Reeves and others.

La., Lafayette—Pecan Cultivation, etc.—Lafayette Pecan Nursery organized by J. C. Nickerson, S. R. Parker, A. B. Denbo and others; acquired 25 arpents of land and will plant 300,000 to 500,000 trees and cultivate pecans, figs and oranges; C. T. Viennenu, manager.

La., New Orleans—Rice Mill.—J. D. Marks, Crowley, La., recently noted to establish rice mill, will erect 42x48-foot mill building and warehouses; will install power plant, 250 16 c. p. d. c.; cost of machinery and power plant, \$25,000; Philip Rahn, contractor, New Orleans; Jas. A. Pelly, architect, Crowley, La.

La., Shreveport—Laundry.—A. Autry, S. L. Herold and A. Goldstein organized company with \$25,000 capital stock to establish laundry; will erect building 50x100 feet; brick and concrete; machinery purchased.

Md., Baltimore—Printing and Engraving.—Baltimore Steel Engraving & Printing Co. incorporated with \$50,000 capital stock by G. W. Metcalfe, 924 Light St.; W. H. Engel, 624 Light St., and A. C. Metcalfe, 926 Light St.

Md., Baltimore—Publishing.—World Publishing Co. incorporated with \$60,000 capital stock by James B. Guyton, 213 St. Paul St.; Wilhelm L'Allemand, 128 Mosher St., and John Edward Nunn, 1137 Bolton St.; will continue publication of Baltimore World.

Md., Baltimore—Dyeing.—Henry G. Loewer, 641 South Eutaw St., has plans by S. Gordon Hopkins, 2407 East Federal St., Baltimore, for addition in rear of present structure; 33x14½ feet; two stories; brick; steam heat; cost \$7000.

Md., Cumberland—Hardware.—Flintstone Hardware Co. incorporated with \$5000 capital stock; T. B. Lashley, president; Orin O. Wilson, treasurer; Charles W. Willison, secretary.

Md., Hancock—Fruit Farms.—Elberta Fruit Farms Incorporation organized with Alfred W. Sisk president, of Preston, Md.; George A. Harrison, vice-president; Orlando Harrison, treasurer, both of Berlin, Md.; George H. Brooks, secretary, of Hancock; purchased four farms—206 acres, for \$3700, 72 acres for \$1525, 110 acres for \$600 and 107 acres for \$1250; will clear, plant in fruit trees, develop for fruit farms, establish canneries etc.

Miss., Laurel—Steam Laundry.—City Steam Laundry Incorporated with \$10,000 capital stock by S. M. Jones, Cecil Shands and others.

Miss., Ocean Springs—Fruit and Nut Cultivation.—Fort Bayou Fruit Co. incorporated with \$10,000 capital stock by John Behrens, Highland Park, Ill.; P. A. Jenks and John Venners, Chicago, Ill.

Mo., Kansas City—Publishing.—Auto Life Publishing Co. incorporated with \$10,000 capital stock by Jessie C. May, Harriet M. Tomlinson and S. J. Manzer.

Mo., Versailles—Grain Elevator.—H. Moser will erect 15,000-bushel grain elevator.

N. C., Charlotte—Printing.—A. M. E. Zion Publication House, F. K. Bird, manager, 206 South College St., has not let contract for erection of building recently noted; size 40x100 feet; mill construction; plans by R. C. Biberstein, Charlotte, N. C. (See "Machinery Wanted.")

N. C., Wilson—Printery.—P. D. Gold Publishing Co. is arranging to rebuild Wilson Times plant reported burned; loss \$15,000.

N. C., Wilson—Engineering, etc.—Brett Engineering & Contracting Co. incorporated with \$50,000 capital stock by Lawrence Brett, M. C. Carr and R. Mitchell Brown.

Okl., Ponca City—Implements.—George Brett Implement Co. Incorporated with \$20,000 capital stock by George H. Brett, John G. Given and James Webster.

Okl., Stillwater—Hardware.—Merry Hardware Co. Incorporated with \$10,000 capital stock by John W. Merry, George D. Merry and John A. Fletcher.

S. C., Cheraw—Farm.—Juniper Plantation incorporated with \$25,000 capital stock; L. E. Beall, president; E. H. Duvall, vice-president; H. W. Duvall, secretary-treasurer.

Tenn., Chattanooga—Hardware.—C. M. P'Pool Hardware Co. Incorporated with \$10,000 capital stock by C. M. P'Pool, Leslie P'Pool, J. F. Murphy and others.

Tenn., Knoxville—Cleaning and Dyeing.—Bell Laundry Co., Chas. L. Parham, president, awarded contract to D. Getz, Son & Co., Knoxville, Tenn., for erection of fire-proof building; cost \$2500; plans by Bauman Bros., Knoxville, Tenn.

Tenn., Memphis—Garage.—Jerome P. Parker Company incorporated with \$100,000 capital stock by Jerome P. Parker, Maxwell P.

Patterson, J. E. Squire and others; will establish garage.

Tenn., Nashville—Publishing.—Publishers Press incorporated with \$50,000 capital stock by J. H. Reeves, E. W. Foster, B. Kirk Rankin and others; will not establish printing plant; but act collectively in making contracts for publication of Southern Lumberman, Merchant and Manufacturer, Southern Agriculturist, Dixie Miller, Southern Medical Journal, Progressive Teacher and Southwestern School Journal.

Tenn., Russellville—Implements.—Russellville Implement Co. incorporated with \$10,000 capital stock by H. G. Patterson, W. T. R. Deaver, J. D. Thompson and others.

Tex., Alpine—Publishing.—Alpine Publishing Co. (recently reported incorporated with \$5000 capital stock) will publish Alpine Avalanche; C. D. Jackson, president; J. L. Crawford, vice-president; W. J. Yates, secretary; First National Bank of Alpine, treasurer. (See "Machinery Wanted.")

Tex., Houston—Railway Equipment, etc.—National Iron & Steel Co. organized with \$10,000 capital stock; J. M. West, president; I. H. Cohn, vice-president and general manager; J. R. Cohn, secretary-treasurer; will establish sales agency for railway equipment, rails, railway supplies, angle bars, etc.; offices, 330 Chronicle Bldg.

Tex., Houston—Typesetting.—Miller & Orem Typesetting Co. incorporated with \$35,000 capital stock by H. H. Orem, H. S. Young and J. C. Wheeler.

Tex., Quanah.—F. D. Hendrix will probably erect garage and apartment-house; cost \$30,000.

Tex., McAllen—Publishing.—McAllen Publishing Co. incorporated by R. E. Horn, George M. Doherty and O. P. Archer.

Va., Lynchburg—Transfer.—Long's Freight Transfer Co. incorporated with \$15,000 capital stock; W. W. Lynn, president; J. H. Long, vice-president; W. E. Long, secretary.

W. Va., Greenbrier—Summer Resort.—White Sulphur Springs incorporated with \$50,000 capital stock; George W. Stevens, president; Decatur Axtell, vice-president; James Stuart Mackie, secretary-treasurer; A. Trevett, assistant secretary; C. E. Potts, assistant treasurer. (R. G. Stevens, recently noted under Va., Leesburg, as having purchased White Sulphur Springs property and planning to expand \$350,000 for development as summer resort). Main office, Richmond, Va.

W. Va., Martinsburg—Orchard.—Mt. Glen Orchard Co. incorporated with \$50,000 capital stock by M. C. Tablor, H. C. Kitchen, R. A. Clohan and others.

W. Va., Romney—Orchard.—Mutual Orchard Co. incorporated with \$10,000 capital stock by Harry H. Cookus, L. K. Dunkle, Thomas F. Martin and others.

MISCELLANEOUS MANUFACTURING PLANTS

Ala., Birmingham—Eggs, etc.—National Egg Preserver Co. incorporated with \$10,000 capital stock; Jack Biddle, president, Birmingham; D. A. Burns, vice-president, Gadsden, Ala.; T. A. Robison, secretary-treasurer, Birmingham.

Ala., Gadsden—Harness.—Jones Bros. will erect building 30x60 feet and equip for harness factory; machinery purchased.

Ala., Birmingham—Vending Machines.—Birmingham Automatic Sales Co. incorporated with \$10,000 capital stock; B. Rittenberry, president and manager; W. K. Smith, vice-president; Ector H. Smith, treasurer.

Fla., Jacksonville—Distillery.—Atlantic Coast Distilling Co. incorporated with \$6000 capital stock.

Ga., Atlanta—Manufacturing.—W. N. Randle will erect building for manufacturing plant.

La., Broussard—Sugar Mill.—Billeaud Sugar Factory awarded contract at \$36,000 to Whitley Iron Works, New Orleans, La., for six roller mills, 6 feet 6 inches by 34 inches; will increase capacity from 900 tons to 1200 tons daily.

La., Lakeland—Sugar.—A. A. Lorio will rebuild on larger scale sugar mill previously burned.

La., New Orleans—Paint.—Hirsch & Doswell Manufacturing Co. will operate paint plant; daily capacity, 300 gallons; will occupy rented building temporarily; W. P. Doswell, president; Hans Hirsch, vice-president; J. P. Doswell, secretary-treasurer.

La., Shreveport—Glass.—Chanute (Kans.) Glass Co. proposes establishment of \$100,000 plant.

La., Thibodaux—Sugar.—E. D. White, 1717 Rhode Island Ave. N. W., Washington, D. C., awarded contract to E. A. Sammons & Co.,

New Orleans, La., at \$50,000 to rebuild sugar mill at White Station. (Previously noted.)

Md., Baltimore—Shoe-polishing Machines.—American Automatic Shoe Polishing Machine Co. will establish plant at Monument and Constitution Sts.; manufacture automatic shoe-polishing machines; castings and other parts manufactured by other companies; later company will erect plant for production of every part, from brushes to polishing cloth.

Md., Baltimore—Candy.—Crescent Candy Co. 112 South Howard St., leased structures at 17 and 19 South Howard St.; will combine two structures and remodel for candy factory; combined cost of structure and improvements, \$25,000.

Miss., Hattiesburg—Turpentine.—Joseph L. Yost, manager of Michigan Turpentine Co., Bay City, Mich., contemplates establishment of turpentine still, to use approximately 75 cords of stumps daily; cost \$25,000.

Miss., Vicksburg—Rice Mill.—I. Marks, Crowley, La., contemplates, it is reported, establishment of rice mill.

Miss., Vidalia—Rice Mill.—George Hough and John Burgess are promoting establishment of rice mill.

Mo., Jackson—Patents.—Missouri Patent Manufacturing Co. incorporated with \$20,000 capital stock by W. H. Johnson, J. W. Miller and Edward F. Miller.

Mo., Kansas City—Automobiles.—Empire Car Manufacturing Co. incorporated with \$12,000 capital stock by E. M. Wasserstrom, H. Tucker and Abe Passman.

Mo., St. Louis—Wearing Apparel.—Abbot Jacket Manufacturing Co. incorporated with \$3700 capital stock by Frederick W. Peetz, Jr., Charles F. Vatterott and Charles E. Baur.

Mo., St. Louis—Oil Burners.—Coombs Manufacturing Co. incorporated with \$25,000 capital stock by George A. Coombs, Arthur H. Coombs and Bertha M. Coombs.

Mo., St. Louis—Chemicals.—Katharmon Chemical Co. will erect factory building.

N. C., Charlotte—Electric Signs.—Charlotte Sign Works will enlarge plant and make specialty of manufacturing electric signs; additional equipment purchased.

Mo., St. Joseph—Federal Mercantile & Manufacturing Co. incorporated with \$75,000 capital stock by J. Ferris Spoor, H. U. Bryan and D. P. Fuller.

Mo., St. Louis—Manufacturing.—Steiner Manufacturing Co. incorporated with \$26,000 capital stock by Barbara Steiner, Joseph Steiner and Charles Hinkle.

Mo., St. Louis—Pumps, etc.—W. C. Pump & Manufacturing Co. incorporated with \$10,000 capital stock by Otto C. Clement, John H. Wagner, James Coffey and others.

Mo., St. Louis—Safes and Vaults.—St. Louis Safe & Vault Co. incorporated with \$20,000 capital stock by Christian Claudio, Louis J. Sharp and John C. Banks.

N. C., Greensboro—Gas Plant.—North Carolina Public Service Co. will erect addition to gas plant; cost of completed plant, \$100,000; will triple present capacity.

N. C., Pilotmountain—Tobacco.—J. R. Watson, Winston-Salem, N. C., leased building and will equip for plug-tobacco factory.

Okla., Oklahoma City—Filterer, etc.—Gyp Water Softener & Filter Co. incorporated with \$25,000 capital stock by E. C. Donnelly, E. J. Donnelly and E. E. Parsons.

Okla., Piedmont—Washing Machines.—Mulvey Mercantile Co. purchased and will install machinery for manufacturing patented washing machine.

Okla., Sallisaw—Monuments, etc.—Sallisaw Monumental & Cut Stone Co. incorporated by W. H. Mitchell of Marble City, Okla., J. D. Norwood and S. S. Palmer, both of Sallisaw.

S. C., Charleston—Cigars.—Company organized by A. J. Greer, H. G. Follin, J. E. Wingo and others; leased building at Bay and Vernon Sts. and will equip for cigar factory.

S. C., Greenville—Ink Wells.—Geo. H. Hart, Box 599, contemplates manufacture of dust-proof ink well. (See "Machinery Wanted.")

Tenn., Chattanooga—Logging Tools.—Dixie Logging Tool Co. incorporated with \$15,000 capital stock by L. A. Vincent, Elinor Coonrod, Emil Stocker and others.

Tenn., Chattanooga—Coffee-roasting Plant.—Chattanooga Coffee Co. organized by J. H. Lide and J. N. Redus, both of Corinth, Miss.; leased building on Fort St., between Boyce and Carter Sts., and will equip for coffee roasting.

Tenn., Chattanooga—Medicine.—Company organized with J. T. Lupton, president, purchased Thacher Medicine Co., and will expend \$100,000 for improving and enlarging plant.

Tenn., Nashville.—Stern Manufacturing Co. incorporated with \$40,000 capital stock by J. Stern, B. Benkovitz, M. H. Skalowski and others.

Tex., Boerne—Creamery.—Boerne Dairy Feed Co. contemplates building ice factory and creamery. (See "Machinery Wanted.")

Tex., El Paso—Oil Refinery.—El Paso Refining Co. incorporated with \$50,000 capital stock by J. B. Dale, J. E. Dale, W. T. Owens and Frank Sweeny.

Tex., Orange.—F. M. Henning, proprietor of Louisiana Steam Marble Works, Alexandria, La., will establish marble works; cost \$25,000.

Tex., Quanah—Candy.—F. F. Brazill will, it is reported, erect \$20,000 candy factory.

Tex., Quanah—Cotton Pickers.—J. Y. Hughes contemplates organization of company and erection of plant to manufacture cotton picker invented by Mr. Hughes.

Tex., Shiner—Brewing.—Shiner Brewing Co. increased capital stock from \$6000 to \$10,000.

Tex., Sulphur Springs—Creamery.—W. G. Walters, Paris, Tex., will probably establish creamery.

Tex., Wolfe City—Novelties.—McDonald Novelty Co. incorporated with \$10,000 capital stock by P. G. McDonald, J. W. Motley and J. D. Harrell.

Va., Norfolk—Trunks.—C. L. Goldsmith Company incorporated with \$10,000 capital stock; S. Iseman, president; C. L. Goldsmith, vice-president; C. L. Goldsmith, secretary-treasurer.

Va., Petersburg—Distillery.—Dinwiddie Distilling Co. incorporated with \$25,000 capital stock; W. J. Stafford, president; W. H. Flowers, Vice-president; J. F. Stafford, secretary-treasurer.

Va., Richmond—Washing Powder.—Quick Wash Co. incorporated with \$50,000 capital stock; E. S. Evans, president; E. N. Newman, secretary-treasurer; J. H. Schlueter, manager.

Va., Tenn., Bristol—Distillery.—E. Gouge & Co., 528 Commerce St., recently noted to establish distillery, will erect \$3000 fireproof building; Hoffman Ahlers, Louisville, Ky., contractor; plans by C. G. Mitchell; will install machinery to cost \$15,000. (See "Machinery Wanted.")

W. Va., Follansbee—Tinplate.—Follansbee Brothers Company will erect two additional sheet mills, install necessary heating and annealing furnaces, extend hot mill and equip new power plant with 500-kilowatt electrical generator to drive low-pressure steam turbine; main offices, Pittsburg, Pa.

W. Va., Keyser—Creamery.—Jones & Bancroft, Chicago, Ill., contemplate establishment of creamery.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Ga., Atlanta—Gas Plant.—North Carolina Public Service Co. will erect addition to gas plant; cost of completed plant, \$100,000; will triple present capacity.

N. C., Pilotmountain—Tobacco.—J. R. Watson, Winston-Salem, N. C., leased building and will equip for plug-tobacco factory.

Mo., St. Joseph—Federal Mercantile & Manufacturing Co. incorporated with \$75,000 capital stock by J. Ferris Spoor, H. U. Bryan and D. P. Fuller.

Mo., St. Louis—Manufacturing.—Steiner Manufacturing Co. incorporated with \$26,000 capital stock by Barbara Steiner, Joseph Steiner and Charles Hinkle.

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S. C., Greenville—Ink Wells.—Geo. H. Hart, Box 599, contemplates manufacture of dust-proof ink well. (See "Machinery Wanted.")

Tenn., Chattanooga—Logging Tools.—Dixie Logging Tool Co. incorporated with \$15,000 capital stock by L. A. Vincent, Elinor Coonrod, Emil Stocker and others.

Tenn., Chattanooga—Coffee-roasting Plant.—Chattanooga Coffee Co. organized by J. H. Lide and J. N. Redus, both of Corinth, Miss.; leased building on Fort St., between Boyce and Carter Sts., and will equip for coffee roasting.

Tenn., Chattanooga—Medicine.—Company organized with J. T. Lupton, president, purchased Thacher Medicine Co., and will expend \$100,000 for improving and enlarging plant.

Tenn., Waco.—Citizens' Street Railway Co. will erect car sheds, shops, warehouse and clubhouse on river front at foot of Franklin St.

Va., Richmond.—Chesapeake & Ohio Railway, F. I. Cabell, chief engineer, is understood to have purchased 300 acres of land at \$50,000 as site for the construction of extensive shops to cost several million dollars; Chesapeake, Cincinnati, Chicago & Louisville and Hocking Valley Railroad companies to be included as owners of plant.

ROAD AND STREET IMPROVEMENTS

Ala., Ensley.—Corey Land Co., Robert Jemison, Jr., president, Birmingham, Ala., will construct 87,350 linear feet combination cement curb and gutter, 13,600 linear feet cement curb, 46,650 square yards cement sidewalks, 58,477 square yards macadam streets and 32,411 square yards paved street in connection with development of industrial city. (See "Land Development.")

Ala., Huntsville.—City awarded contract to Metropolitan Construction Co. of Huntsville to pave Eustis and Clinton Sts. with sheet asphalt.

Ark., Marianna.—City awarded contract to W. R. Petrey, Pine Bluff, Ark., for street paving.

Fla., Pensacola.—L. Earle Thornton, City Engineer, is preparing plans for paving Palafox and Tarragona Sts.; bids will be invited on brick, wood block, macadam, etc.

Fla., St. Augustine.—City will grade and pave with shell St. George St., between St. Francis and South Sts. Address The Mayor.

Ga., Dalton.—City contemplates voting on issuance of bonds for street improvements. Address The Mayor.

Ga., Macon.—City will advertise for bids in about 30 days for street paving, for which \$100,000 bond issue was recently reported voted; first streets to be paved and number of square yards are: Cotton Ave., 16,412.04; College St., 6417.14; Georgia Ave., 5709; 5th St., 889.42; Main St., 10,184.26; total, 47,621.86 square yards; C. C. Anderson, City Engineer.

Ky., Catlettsburg.—City issued \$12,000 of bonds for street paving; J. J. Montague, Mayor.

La., Lake Charles.—City Council instructed City Engineer to prepare plans and specifications for sidewalk construction, amounting to about five miles, on Hodges, South, Cleveland and other streets.

La., Leesville.—City will construct 30,000 square feet of concrete sidewalk and curb; bids to be opened March 8; J. B. Sterns, City Engineer. (See "Machinery Wanted.")

La., Natchitoches.—City will construct 813.52 square yards of sidewalk on St. Denis St.; bids opened March 2. Address The Mayor.

Md., Annapolis.—City will petition Legislature for authority to issue \$24,000 of bonds for street paving, etc. Address The Mayor.

Md., Easton.—City will petition Legislature for authority to issue \$35,000 of bonds for paving streets, including Washington, Goldsborough, Dover and Federal Sts. Address The Mayor. (Recently mentioned.)

Md., Frostburg.—City will vote on issuance of \$50,000 of bonds for grading and paving streets. Address The Mayor.

Md., Hyattsville.—City contemplates street improvements; William P. Magruder, Mayor.

Md., Towson—Baltimore county will grade and macadamize three-quarters of a mile of Falls Rd. between Broadway and Beaver Dam bridge; bids to be opened March 10; E. Stanton Bosley, secretary Highways Commission. (See "Machinery Wanted.")

Miss., McComb City.—Pike County Board of Supervisors has employed Xavier A. Kramer, Magnolia, Miss., as County Engineer; a few miles of sand-clay road will be constructed at once as experiment; further road construction to follow; survey now being made; convict labor. (See "Machinery Wanted.")

N. C., Whiteville.—City voted \$25,000 bond issue for street improvements. Address W. R. Davis, Mayor.

Okla., Ardmore.—City awarded contract at \$1.55 per square yard to Shelby-Downard Asphalt Co. of Ardmore for paving streets with asphalt; estimated cost \$15,000.

Okla., Clinton.—City will construct 24,505 square yards vitrified block paving with five-inch concrete base and asphalt filler, 2480 linear feet concrete curb, etc.; C. G. Welch, Mayor; J. L. O'Hearn, Clinton, is consulting civil engineer. (See "Machinery Wanted.")

Okla., Holdenville.—City Engineer is preparing plans for paving 18 blocks.

Okla., Clinton.—City contemplates construction of 4½ miles cement sidewalk. Address The Mayor.

Okla., Oklahoma City.—City awarded contract at \$600 to T. R. Davis of Oklahoma City to grade 12 miles of total 27 miles of new park boulevard 200 feet in width; contract includes grading and leveling and all curbs two feet and under in depth. (Recently mentioned.)

Okla., Oklahoma City.—City will vote on issuance of \$30,000 of bonds for street department. Address The Mayor.

Okla., Tulsa.—City awarded contract to Eureka Paving Co. of Tulsa to construct 80

blocks of asphalt paving; D. C. Fenstermaker, City Engineer. (Recently mentioned.)

S. C., Greenville.—City is circulating petition asking Mayor and Council to order election on bond issue of \$200,000 for improvements to streets and sidewalks and for building of Main St. bridge; A. E. Sussex, City Clerk and Treasurer.

Tenn., Chattanooga.—Board of Public Works, H. F. Van Dusen, chairman, will open bids in about two weeks for curbing and sidewalks on McCallie Ave., paving district No. 141, from Cemetery Ave. to Kelly Ave., 7000 feet; vitrified brick, asphalt, bitulithic, class A chert and asphaltic concrete; also granite curbs and concrete sidewalks; proposals will also be asked for paving district No. 32, 900 feet, on Walnut St., between Georgia Ave. and East 6th St., with asphalt, vitrified brick or bitulithic paving, and to replace curbs where necessary; Robert Hook, City Engineer.

Tenn., Columbia.—City contemplates paving of streets; cost within \$5000. Address The Mayor.

Tenn., Lonsdale, R. Station, Knoxville.—City contemplates voting on issuance of \$30,000 of bonds for grading and paving streets, etc. Address The Mayor.

Tenn., Obion.—City will vote March 19 on issuance of \$15,000 of bonds for street and sidewalk improvements. Address The Mayor.

Tenn., Pulaski.—Giles County Court ordered election in August on issuance of \$100,000 of bonds for road construction. Address County Commissioners.

Tex., Amarillo.—City will vote March 23 on issuance of \$75,000 of bonds for street improvements. Address The Mayor.

Tex., Austin.—City awarded contract to Noy Johnson and C. Burland of Austin at \$2.15 per square yard for paving East 6th St. from Red River to East Ave.

Tex., Dallas.—Municipal Commission instructed J. B. Winslett, City Secretary, to advertise five days for bids on construction of Dallas-Garland road, changing its course so as not to interfere with construction of White Rock reservoir; roadway to be 825 feet long, 50 feet wide throughout entire length, excepting 1740 feet, which will be 60 feet; will require removal of 14,551 cubic yards of excavation and embankment; 2655 cubic yards of gravel required for surface; 272 square yards of rip-rap.

Tex., El Paso.—City awarded contract to Texas Bitulithic Co., Dallas, Tex., for construction of 10,602 square yards bitulithic paving on South Stanton St.

Tex., Gonzales.—City will vote March 29 on issuance of \$15,000 of bonds to improve principal streets and connect gravel roads built by county; materials to be mainly stone and gravel. Address The Mayor.

Tex., Houston.—Houston Electric Co. (controlled by Stone & Webster Engineering Corporation, Boston, Mass.), David Daly, manager, plans expenditure of \$70,000 during 1910 for various extensions and improvements, including construction of Washington St. pavement from end of present pavement to Southern Pacific crossings; rebuilding of Caroline St. pavement from Texas Ave. and Caroline St. to McKinley and Caroline Sts.; paving on Travis St. now proceeding from Dallas to Leeland Sts.; reconstruction of special work at Franklin and Main Sts., and rebuilding of White Oak Bayou trestle.

Va., Appalachia.—City voted issuance of \$14,000 of bonds for street improvements, sewer construction and bridge over Powell River. Address The Mayor.

Va., Norfolk.—City awarded contract at \$2.20 per square yard to Atlantic Bitulithic Co., Mutual Bldg., Richmond, Va., to pave 2600 square yards on Colonial Ave.

SEWER CONSTRUCTION

Ala., Dothan.—City will construct concrete storm sewers and sanitary sewers; bids invited; R. W. Lisenby, Clerk. (See "Machinery Wanted.")

Ala., Ensley.—Corey Land Co., Robert Jemison, Jr., president, Birmingham, Ala., will construct 2½ miles of storm sewers and 8½ miles of sanitary sewers of various sizes. (See "Land Development.")

Ala., Hartselle.—City plans construction of sewer system. Address The Mayor.

Ala., Montgomery.—City awarded contract to J. M. Mitchell of Montgomery to construct 5000 feet of 12-inch sanitary sewer from Highland Park to Southern outfall sewer on South Decatur St.; estimated cost, \$10,000; work begun. (Recently mentioned.)

Fla., Kissimmee.—City will vote March 9 on issuance of \$43,000 sewer and water bonds. Address The Mayor.

Ga., Atlanta.—City voted issuance of \$1,350,000 of bonds for construction of three dis-

posal plants to dispose of sewage, with septic tanks and lateral trunk sewers; R. M. Clayton, City Engineer.

Ky., Louisville.—Sewer Commission, P. L. Atherton, chairman, Equitable Bldg., contemplates deepening of Beargrass Creek, constructing concrete walls, etc.; cost \$275,000 to \$300,000.

Md., Baltimore.—Sewer Commission, Calvin W. Hendrick, chief engineer, American Bldg., will recommend award of contract to Ryan & Reilly, 215 American Bldg., Baltimore, at \$76,146 to construct power-house, pumphouse and land conduits at Back River disposal works; to Irwin Bros., Greenville, O., at \$69,765 and \$19,667.60, respectively, for construction of sanitary lateral sewers in district 19B, contract No. 48, and in district No. 35, contract No. 49; power-house at Back River is to utilize fall of sewage on its way to river after being purified to generate electricity necessary to operate disposal plant. (Lately noted.)

Md., Baltimore.—City is readvertising for bids to be opened March 2 on construction of underwater discharge conduits, sanitary contract No. 47, and storm-water drains, contract No. 9; Calvin W. Hendrick, chief engineer Sewerage Commission, 904 American Bldg. (See "Machinery Wanted.")

Miss., Meridian.—City Engineer, W. G. Wetmore, will prepare plans and specifications and advertise for bids on construction of storm sewers.

N. C., Ashboro.—City contemplates issuance of \$50,000 bonds for water-works and sewerage. Address H. M. Worth, Mayor.

Okla., Ardmore.—City awarded contract at \$25,640.05 to Healy Construction Co., McAlester, Okla., for construction of sanitary sewers.

Okla., Clinton.—City will open bids March 15 for construction of sewer system; C. G. Welch, Mayor; J. L. O'Hearn, Clinton, is consulting civil engineer. (See "Machinery Wanted.")

Okla., Oklahoma City.—City will vote March 7 on issuance of \$35,000 of sewer bonds. Address The Mayor.

Okla., Wagner.—City will vote on issuance of \$10,000 of bonds for sewer construction. Address The Mayor.

S. C., Columbia.—City will construct reinforced concrete storm sewer on College St.; distance, 412.7 feet; G. F. Cooper, City Treasurer. (See "Machinery Wanted.")

Tenn., Lonsdale, R. Station, Knoxville.—City contemplates voting on issuance of \$30,000 of bonds for construction of sewer system, etc. Address The Mayor.

Tex., Abilene.—Abilene Sewer Co. increased capital stock from \$25,000 to \$50,000.

Tex., Amarillo.—City will vote March 23 on issuance of \$40,000 of bonds for extension of sanitary sewer. Address The Mayor.

Tex., Houston.—City will award contract to Kelso & Vautrin, Galveston, Tex., to construct sanitary sewers in Fourth ward; work will comprise 5580 linear feet of 12-inch pipe, manholes, flush tanks, etc.; estimated cost \$10,000; H. B. Rice, Mayor. (Recently mentioned.)

Va., Appalachia.—City voted issuance of \$14,000 of bonds for sewer construction, street improvements and bridge over Powell River. Address The Mayor.

Va., Norfolk.—Board of Control awarded contract to E. J. McGuire of Norfolk at \$12,570 for construction of sewers in Greater Ghent; W. T. Brooke, City Engineer.

Va., Portsmouth.—City will open bids March 4 for furnishing mechanical equipment and stack for operating sewage ejectors, consisting of two air compressors, two boilers of 100 and 125 horse-power each, two boiler-feed pumps, water heater and purifier, and perforated radial-brick chimney; V. O. Cassell, Jr., City Engineer. (See "Machinery Wanted.")

Va., Williamsburg.—City will sell franchise for sewer system; bids to be opened March 23; John L. Mercer, chairman water committee. (See "Machinery Wanted.")

W. Va., Charleston.—City opened bids February 21 for construction of sewer in alley between 3d St. and K. & M. Ry., and on Florida St.; W. A. Hogue, 301-302 Wilson Block, is City Engineer.

W. Va., Parkersburg.—Board of Affairs, Parkersburg, W. Va., opened bids February 21 for construction of eight-inch sanitary sewer on Latrobe, 20th and Oak Sts.; distance, 3332 feet, including necessary (Y) branches, house connections, manholes, etc.; Frank Good, Auditor.

TELEPHONE SYSTEMS

Ala., Mobile.—Home Telephone Co. will expand \$400,000 for improvements and extensions to system.

Ark., Pocahontas.—Farmers' Telephone Co. incorporated with \$12,000 capital stock by H. M. Crockett, Joe Ham, John R. Holt and others.

Ala., Swainsboro.—Mutual Telephone & Telegraph Co. increased capital stock from \$3000 to \$10,000 and will extend lines.

Md., Hillsboro.—Farmers & Merchants' Telephone Co., H. M. Thompson, secretary and treasurer, contemplates expenditure of \$50,000 to reconstruct and extend line through Caroline, Talbot and Queen Anne's counties, Maryland. (Recently noted to increase capital stock to \$50,000.)

Miss., Beth-Eden, R. F. D. from Louisville Gentry Telephone Co. incorporated with \$5000 capital stock by J. A. Gentry, J. H. Croft and others.

Okla., Schoolton.—Farmers' Schoolton Telephone Co. Incorporated by J. H. Terrell, R. N. Gunn, C. W. Carsile and J. B. Wright.

Va., Fincastle.—Roanoke & Botetourt Telephone Co. in considering construction of line from Eagle Rock to Buchanan and from Buchanan to Troutville.

TEXTILE MILLS

Ala., Huntsville.—Shirtings.—Lowe Manufacturing Co. awarded contract to T. C. Thompson & Bro., Birmingham, Ala., for erection of additional building reported last month; 90x100 feet, of brick; awarded contract for 300 looms to be installed.

Ark., Womble—Cotton Cloth.—Walter E. Womble and associates contemplate building cotton-cloth or thread mill and developing water-power to furnish power; details not decided. (See "Machinery Wanted.")

Ga., Atlanta.—Wm. N. Randall may build textile mill; no details determined.

N. C., Durham—Hosiery.—Durham Textile Mills incorporated with capital stock of \$50,000; will occupy second floor of 45x16-foot building and install 10 knitting machines, two ribers and two loopers to begin with; electric power; has ordered machinery; will increase equipment later; A. M. Moore, president; E. R. Merrick, vice-president, and Chas. C. Ameay, secretary-general manager.

N. C., High Point—Cotton Cloth.—Pickett Cotton Mills will be name of proposed company mentioned lately; will organize with R. L. Steele, president, Rockingham, N. C.; W. P. Pickett, vice-president; F. M. Pickett, secretary-treasurer, both of High Point; will probably build mill of 12,000 spindles and 300 looms, operated by electricity; capital stock \$250,000.

N. C., Tarboro—Cotton Cloth.—Tarboro Cotton Factory increased capital stock from \$164,450 to \$200,000; now has 12,200 ring spindles and 200 looms.

S. C., Great Falls—Cotton Cloth.—Republic Cotton Mill telegraphs the Manufacturers' Record it will build two mills in addition to plant under construction, totalling 100,000 spindles and looms to match; now proceeding with erection of first mill of 25,000 spindles and 1000 looms, details of which were announced in December; Robert S. Mebane, president, Graham, N. C.

N. C., Lumberton—Cotton Yarns.—Jennings Cotton Mills (recently reported incorporated) has organized with H. B. Jennings, president-treasurer; A. E. White, vice-president, and F. P. Gray, secretary; will build yarn mill costing about \$25,000; no details determined.

N. C., Monroe—Sheeting.—Monroe Cotton Mills will increase capital stock from \$145,000 to \$175,000; now has 8736 ring spindles and 152 broad looms; is installing electrical drive as lately reported.

Okla., Lawton—Cotton Cloth.—E. L. Shuford Manufacturing Co. now has final plans for mill recently mentioned; will erect main building 75x450 feet, two stories high, of standard mill construction; textile machinery will include 10,000 spindles and 300 looms driven by steam power; all contracts awarded; J. E. Shirline, engineer and architect in charge, Greenville, S. C.; company telegraphs Manufacturers' Record that contract for mill building and 60 operatives' cottages has been awarded to Fiske-Carter Construction Co. of Worcester, Mass.

Tex., Graham.—A. O. Norris is interested in plan to build cotton mill.

WATER-WORKS

Ala., Dothan.—City will construct 3900 feet of cast-iron water mains; bids invited; R. W. Lisenby, Clerk. (See "Machinery, etc., Wanted.")

Ala., Ensley.—Corey Land Co., Robert Jemison, Jr., president, Birmingham, Ala., will construct 8½ miles of water mains. (See "Land Development.")

Ala., Hartselle.—City plans construction of water-works. Address The Mayor.

Ala., Sylacauga.—City voted bond issue for extension of water-works. Address The Mayor.

Ala., Opelika.—City will vote March 28 on issuance of \$85,000 of bonds for water-works and electric-light plant. Address The Mayor.

Ala., Talladega.—City is arranging for construction of proposed water-works; has disposed of \$50,000 bond issue. Address The Mayor.

Ark., Booneville.—Booneville Light & Water Co. contemplates construction of pumping station and electric-power plant to be operated by hydraulic turbines.

Ark., Harrison.—Harrison Water Co. will construct 25,000 feet of mains and two additional storage tanks; city has ordered installation of fire hydrants every 600 feet on all mains laid.

Ark., Hardy.—Dr. Buford, Memphis, Tenn., is considering, it is reported, construction of water-works. (See "Electric-Light and Power Plants.")

Fla., Kissimmee.—City will vote March 9 on issuance of \$43,000 water and sewer bonds. Address The Mayor.

Ga., Atlanta.—City voted issuance of \$90,000 of bonds for extension and improvement of water-works; betterments will include new reservoir, estimated cost \$55,000; increase of filter plant, \$50,000; two coagulating basins, \$50,000; land for basins, \$8000; additional clear-water basins, \$12,000; piping, \$725,000; R. M. Clayton, City Engineer. (Previously mentioned.)

Ga., Dalton.—City contemplates voting on issuance of bonds for improvements to water-works. Address The Mayor.

Ga., Lafayette.—City will vote March 22 on issuance of \$40,000 of bonds for construction of water-works and electric-light plant. Address The Mayor. (Recently mentioned.)

Md., Cumberland.—City will petition Legislature for authority to issue \$500,000 of bonds for construction of water-works. Address The Mayor.

Md., Rising Sun.—City will not construct water-works recently reported being considered.

N. C., Ashboro.—City contemplates issuance of \$50,000 bonds for water-works and sewerage. Address H. M. Worth, Mayor.

N. C., Hendersonville.—City, R. H. Staton, Mayor, will install filtering plant for water-works; appropriation recently noted; expenditure from \$2000 to \$5000. (See "Machinery Wanted.")

Okla., Sapulpa.—City Council has engaged Harper & Goodwin, Kansas City, Mo., to supervise construction of proposed water-works, to cost \$125,000.

Okla., Oklahoma City.—City will vote March 7 on issuance of \$100,000 of water-works bonds. Address The Mayor.

Tenn., Knoxville.—City Council approved plan of Water-works Commission to build addition to sedimentation basin at cost of about \$4000; addition to be 75 feet long and 64 feet wide; depth 11½ feet; concrete; present capacity, 300,000 gallons, to be increased to about 600,000 gallons; E. N. Chisholm, manager of plant, prepared plans and will superintend construction. (Recently mentioned.)

Tenn., Morristown.—City Council authorized appropriation of \$10,000 for extension of water and light plants. Address The Mayor.

Tenn., Obion.—City will vote March 19 on issuance of \$30,000 of bonds for water and electric-light plants. Address The Mayor.

Tex., Dallas.—Municipal Commission instructed J. B. Winslett, City Secretary, to advertise for bids on drilling of deep well to Trinity sands in vicinity of Bachman Dam; city is now drilling well near Turtle Creek reservoir, and it is estimated that two wells will have capacity of 2,000,000 gallons daily; bids to be opened March 4; Dan F. Sullivan, Water and Sewer Commissioner; J. M. Preston, City Engineer. (See "Machinery Wanted.")

Tex., Houston.—W. W. Baldwin, president South End Land Co., Burlington, Iowa, is considering construction of water-works in connection with development of Westmoreland farms and townsite of Bellaire.

Tex., Vernon.—City will vote April 5 on issuance of \$15,000 of bonds for extension of water-works. Address The Mayor.

Va., Appalachia.—City voted \$26,000 bond issue for water-works. Address The Mayor.

Va., Fredericksburg.—J. P. Rowe, chairman water committee, submitted plans to

City Council for extension of water system to western portion of city estimated to cost \$12,500; Council appropriated \$6000; work will begin at once under supervision of S. J. Quinn, superintendent of water-works.

Va., Williamsburg.—City will sell franchise for water-works, sewer and electric-light and power system; bids to be opened March 23; John L. Mercer, chairman water committee. (See "Machinery Wanted.")

W. Va., Keyser.—Leander Schaidt, civil engineer, Cumberland, Md., submitted report to City Council on improvement of water-works system, and recommends following plan: Pipe line to Laurel Dale and reservoir there at cost of \$96,000; auxiliary dam at Parr Spring at cost of \$42,000, and overflow dam below present spring of supply at cost of \$16,000; latter to have storage capacity of 26,000,000 gallons; city will vote on issuance of bonds. (Recently mentioned.)

W. Va., Wheeling.—City awarded contract at \$48,865 to construct substructure of pump-house at water-works and at \$29,116 to Perkins & Jackson for superstructure; both contractors of Wheeling; Charles C. Schmidt, Mayor. (Recently mentioned.)

WOODWORKING PLANTS

Ala., Mobile—Columns.—Mobile Column Co. incorporated with \$30,000 capital stock; R. R. McGregor, president and manager; will enlarge factory; machinery mainly supplied; daily capacity, 300 colonial columns. (See "Machinery Wanted.")

Ark., Cotter—Pencil Wood.—Griswold Pen-
cil Co. will erect addition and install additional machinery.

Ark., Huttig.—Wisconsin Lumber Co., Chicago, Ill., will equip plant for manufacturing hubs, belt rims and wagon stock. (See "Lumber-manufacturing Plants.")

Ark., Little Rock—Handles.—Little Rock Axe Handle Factory is being organized with \$12,500 capital stock by Dean-Clarke Company, Washington, Ind.; J. M. Townes, Little Rock, Ark., and others.

Fla., Tampa—Refrigerators, Woodenware, etc.—Dillingham Manufacturing Co., Sheboygan, Wis., will not establish plant to manufacture refrigerators, etc., as recently stated.

Ga., Madison—Variety Works.—Madison Variety Works Co. will erect brick structure to replace plant reported burned; loss \$10,000.

Ky., Winchester—Furniture.—Winchester Lumber & Manufacturing Co. purchased machinery and will establish furniture factory.

Md., Baltimore—Sash, Doors, etc.—Enter-
prise Mill & Lumber Co. will expend \$5000 for improvements to 1409 to 1413 East Monu-
ment St. for manufacturing sash, doors, blinds, mantels and refrigerators.

Ia., Elkton—Ladders.—Duncan Ladder Manufacturing Co. Incorporated with \$25,000 capital stock; Charles S. Bloom, president and treasurer; R. E. Powell, vice-president; Randolph Oaksmith, secretary.

Miss., Jackson—Furniture.—Sears, Roebuck & Co., Chicago, Ill., are not seeking location for plant. (Recently incorrectly reported.)

Mo., Conran—Staves, etc.—Conran Cooperage Co. (recently reported incorporated) will operate slack barrel-stave plant and sawmill; daily capacity staves 40,000; will erect 30x100-foot building costing \$2000; O. B. Gwyn, president; J. M. Byrd, vice-president; L. F. La Font, secretary-treasurer.

Mo., St. Louis—Baskets, Boxes, etc.—St. Louis Basket & Box Co. increased capital stock from \$80,000 to \$500,000; will erect additional plant and increase output of baskets, boxes and veneers.

S. C., Anderson—Furniture.—Cleveland Furniture Co. incorporated with \$10,000 capital stock by F. E. Alexander, J. D. Hammatt and others.

Tenn., Murfreesboro—Woodenware.—Tennessee Red Cedar Woodenware Co. will rebuild portion of plant reported burned.

Tenn., Nashville—Flooring.—Tennessee Oak Flooring Co. (H. A. Batchelor, Jr., and others) has closed all contracts for erection and equipment of plant recently noted; dry-kiln and boiler-room to be of fireproof construction; other building frame; estimated daily capacity 50,000 feet oak flooring; organization not yet completed.

Tex., Beaumont—Furniture, Stairs, etc.—Beaumont Stair & Fixture Co. will establish factory to manufacture mission furniture, store fixtures, stairs, sash, doors and windows; investment about \$15,000; J. C. Christopher, general manager; C. P. Johnson, superintendent mechanical department.

Tex., Uvalde—Wagons, etc.—W. A. Mangum awarded contract to Gus Birkner, Uvalde, for rebuilding of wagon and buggy factory recently noted burned; 60x90 feet; one story; 14 feet high; plate-glass and brick-veneer

front; balance to be ironclad; gravel roof, celled on side and overhead with $\frac{1}{2}$ x4 bead ceiling; cost \$4500.

Va., Winchester—Barrels.—H. F. Byrd and associates will establish barrel factory. (See "Machinery Wanted.")

BURNED

Ala., Anniston.—Anniston Marble Works, W. E. Box, proprietor; loss \$1500.

Ala., Mobile.—C. E. Thames' veneer plant at Choctaw Point; loss \$6000.

Ark., Ashdown.—Kansas City Southern Railway's passenger station; loss \$10,000. A. F. Rust, Kansas City, Mo., is resident engineer.

Ark., Finch.—Laurence Newberry's residence; loss \$5000.

Ark., Hoxie.—Hoxie Commission Co.'s warehouse; union freight depot of St. Louis & San Francisco Railroad, M. C. Byers, chief engineer, St. Louis, Mo., and St. Louis, Iron Mountain & Southern Railway, M. L. Byers, chief engineer maintenance of way, St. Louis, Mo.

Ga., Macon.—Mrs. L. L. Dempsey's three buildings; loss \$6000.

Ga., Madison.—Madison Variety Works Co.'s plant; loss \$10,000.

Ga., Savannah.—Neal-Blun Co.'s store; loss on building, owned by Henry Blun, \$5000.

Ga., Sparta.—John D. Walker's residence; loss \$12,000.

Ky., Louisville.—Kentucky & Indiana Bridge Co.'s coal elevator; loss \$11,000.

Miss., Daleville.—Dormitory building at Cooper's Institute; loss \$3000.

Miss., Corinth.—Morrison Mill & Gin Co.'s plant; loss \$5000.

Mo., Kansas City.—Cohen Bakery, 1627 West 9th St.; loss \$4000.

N. C., Wilson.—P. D. Gold Publishing Co.'s Wilson Times plant; loss \$15,000.

S. C., Laurens.—Nichols, Roper & Roper's stable; loss on building \$5000.

S. C., Mayesville.—J. L. Watford's residence; owned by T. L. Kahn.

Tenn., Memphis.—Memphis Bag Co.'s warehouse.

Tenn., Murfreesboro.—Tennessee Red Cedar Woodenware Co.'s main building.

Tex., Alvin.—Alvin Steam Laundry, owned by J. C. Howland and W. E. Davidson; loss \$12,000.

Tex., Austin.—Thad A. Thompson's residence on West Ave.; loss \$7000.

Tex., Dallas.—Emmett Brown's residence at Relger and Prairie Aves.; loss \$7000.

Tex., Houston.—Bering-Cortez Hardware Co.'s building at Prairie and Milam Sts.; loss \$185,000.

Va., Belle Haven.—Kellam Building, owned by Smith Bros.; loss \$10,000; Belle Haven Drug Co.'s store, loss \$8000.

Va., High Point, R. F. D. from Paces.—J. M. Stone's axe-handle factory, planing mill and grist mill.

Va., Fredericksburg.—C. H. Pierson's silo, barn and excelsior factory; loss \$8000.

Va., Fredericksburg.—C. H. Pierson's barn; loss \$6000.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

Ark., Little Rock.—Dr. W. C. Dunaway is having plans prepared for apartment-house; three or four stories; 50x100 feet; cost \$25,000.

Md., Baltimore.—Samuel Siegael, 215-217 Courtland St., interested in erection of apartment-house on Singer Ave., in West Arlington; 11 stories; 84 apartments of eight rooms each; 285x250 feet; cost \$300,000.

Md., Baltimore.—Owners' Realty Co., Calvert Bldg., is having plans prepared for apartment and store building at Charles St. and North Ave.; four stories; 18x56 feet; front finished with pressed brick and marble; first floor for stores and upper floors for apartments; cost \$8000.

Mo., Kansas City.—Harry G. Fowler and George D. Long purchased site 78x134 feet for \$15,000, on which to erect apartment-house; three stories; six apartments.

Mo., St. Louis.—J. Hagan has plans by Foell Architectural Co., St. Louis, Mo., for proposed apartment-house; 45x67.8 feet; two stories; terra-cotta; hot-air heat; cost \$12,000.

Mo., St. Louis.—B. Wussler purchased site, 66x125 feet, on which to erect apartment house.

Okl., Oklahoma City.—Empire Investment Co. purchased site for \$22,000 on which to erect apartment and store building.

S. C., Spartanburg.—L. D. Proffitt will erect five-story apartment-house.

Tenn., Chattanooga.—Browne & Burton, agents for non-resident, will proceed with erection of apartment and mercantile building previously mentioned. (See "Apartment-houses.")

Tenn., Chattanooga.—Mercantile.—Browne & Burton, 22 East 8th St., agents for non-resident, will proceed with erection of mercantile and apartment building previously mentioned; three stories; 100x75 feet; first floor to have five stores; apartments above; brick; details not decided; Browne & Burton will probably supervise construction.

Tex., Quanah.—F. D. Hendrix will probably erect apartment-house and garage.

Va., Richmond.—W. H. Schwartzschild will erect apartment and store building; brick; cost \$16,500.

BANK AND OFFICE BUILDINGS

D. C., Washington.—Erwin C. Brainerd, 1410 G St. N. W., purchased residence at 1215 Connecticut Ave. for about \$35,000 and will remodel as office and store building.

D. C., Washington.—Home Savings Bank, 7th St., Massachusetts Ave. and K St. N. W., is having plans prepared by Appleton P. Clark, Jr., 605 F St. N. W., Washington, for changing interior of bank building.

La., Angle.—Bank of Angle will erect bank building; one story; pressed brick.

La., Eunice.—Eunice State Bank purchased site 66x71 feet on which to erect bank building costing \$5000; size 30x50 feet; pressed-brick front; plans by T. G. Chachere, Opelousas, La.; bids to be advertised. Address Architect. (See "Machinery Wanted.")

Md., Silver Spring.—Silver Spring National Bank will erect \$4000 bank building; brick; about 30x50 feet; hot-water heat; electric lighting; architect not announced.

N. C., Apex.—A. M. Thompson will erect building to be occupied by People's Bank of Apex.

Okla., El Reno.—Pabst Brewing Co. contemplates, it is reported, erecting office building at 201 and 203 South Bickford St.

Okla., Oklahoma City.—J. F. Croll will erect office and store building at 413-415 North Broadway; three stories; cost \$40,000; plans by D. W. Turbyfill of Oklahoma City.

Okla., Oklahoma City.—Browning Bros., Mill Creek, Okla., will organize banking company and erect bank building.

Okla., Oklahoma City.—N. F. Gates of Oklahoma City and Charles N. Bassett, El Paso, Tex., are arranging for erection of proposed building; 12 stories; cost \$250,000.

Tenn., Memphis.—R. Brinkley Snowden has plans for construction of proposed 12-story office building; 25x14 $\frac{1}{2}$ feet; fireproof construction; steel, brick, stone and terra-cotta; 165 offices; architect, N. M. Woods, 608 Goodwyn Institute Bldg., Memphis.

Tex., Amarillo.—Amarillo National Bank will expend \$25,000 on building recently noted; two stories and basement; 30x90 feet; brick; tile floors; four fire doors; sidewalk lights; steam heat; electric lighting; plans by E. Wallington, Amarillo, Tex.; bids open. (See "Machinery Wanted.")

Tex., Dallas.—Southland Life Insurance Co., John T. Boone president, purchased site 75x100 feet on which to erect office building; 10 stories; reinforced steel; cost \$250,000.

Tex., Goree.—Building committee of First National Bank will open bids March 1 for erection of bank building; 100x24 feet; plans and specifications may be obtained at bank or office of L. B. Weiman, 711½ Main St., Fort Worth, Tex.; certified check, \$500.

Tex., Houston.—Jerome Cochran Co., First National Bank Bldg., is preparing plans and estimates for proposed 20-story office building.

Tex., Silver Valley.—First Guarantee State Bank, R. P. Christian, president, will erect 60x89-foot stone or brick bank building. (See "Machinery Wanted.")

Va., Troutville.—People's Exchange Bank will erect bank building of ordinary construction; size 25x40 feet; architect not employed; C. W. Layton, secretary. (See "Machinery Wanted.")

CHURCHES

Ala., Montgomery.—Perry Street M. E. Church South, Rev. W. M. Curtis, pastor, has not selected architect to prepare plans for edifice recently noted; fireproof construction; steam heat; cost \$25,000; A. C. Davis, chairman building committee.

Ala., Montgomery.—F. H. Kohn & Son, 16

Commerce St., for Rt. Rev. E. P. Allen, bishop of Alabama, has not let contract for erection of St. Andrew's Catholic Church recently noted; 46x100 feet; ordinary construction; cost \$70,000; plans by J. J. Gaffney, Louisville, Ky.

Ga., Milledgeville.—Methodist Church, J. E. Kidd, chairman committee, will open bids about March 21 for erection of edifice recently mentioned; steam heat; electric lighting; cost \$25,000; plans by Curran Ellis, Macon, Ga.

Ga., Sparta.—John D. Walker, chairman executive committee, opened bids February 24 for erection of Methodist Church; plans and specifications to be seen in office of Mr. Walker or of A. F. N. Everett, architect, Atlanta, Ga.; structure will be 50x95 feet; brick veneer; steam heat; electric lighting; cost \$18,000.

La., Lanett.—Union Church is having plans prepared by A. F. N. Everett, 601 English-American Bldg., Atlanta, Ga., for proposed edifice.

La., Slidell.—Slidell Baptist Church will expend \$5000 to erect edifice recently noted; mill construction; furnace; electric lighting; will let contract March 7; plans by J. C. Beck, Covington, La. Address Dr. J. F. Polk.

Md., Baltimore.—North Avenue Baptist Church, Rev. Frank MacDonald, pastor, North and Linden Aves., will erect Sunday school building to cost \$4500.

Miss., Laurel.—Main Street Methodist Church will erect \$20,000 edifice. P. H. Saunders, S. M. Jones and others, committee.

Miss., Laurel.—St. John's Episcopal Church will have plans prepared by New Orleans architects for edifice. George S. Gardner, C. E. Beers and others, committee.

N. C., Concord.—First Baptist Church, Rev. S. N. Watson, pastor, contemplates erection of edifice.

Tenn., Arlington.—Presbyterian Church, U. S. A., will erect proposed edifice; brick veneer; heating and lighting not decided; cost \$5000; plans incomplete. Address J. N. Gray, M.D.

Tenn., Atoka.—Presbyterian Church will, it is reported, erect edifice. Address Dr. W. F. Cooper.

Tenn., Bethpage.—Baptist congregation will, it is reported, erect edifice. Address E. Jones, Trimble, Tenn.

Tenn., Cookeville.—Presbyterian Church, Rev. John T. Price, pastor, will open bids about April 1 for erection of edifice previously mentioned; 45x75 feet; ordinary construction; hot-air heat; electric lighting; cost \$5000. (See "Machinery Wanted.")

Tenn., East Lake.—East Lake Christian Church (A. W. Andrews and others) will erect edifice.

Tenn., Gordonsville.—Presbyterian Church, U. S. A., J. G. Gold, member of building committee, has not let contract for erection of proposed edifice; 32x50 feet; wood; hot-air furnace; cost \$2300; plans by James Yeoman, Nashville, Tenn. (See "Machinery Wanted.")

Tenn., Mountain City.—Baptist congregation will erect edifice. Address The Pastor, Baptist Church.

Tenn., Shady Grove.—Presbyterian Church will, it is reported, erect edifice. Address J. W. Dougan, Williston, Tenn.

Tenn., Sparta.—Methodist Episcopal Church has plans by J. E. Woodward, Sparta, Tenn., for edifice recently mentioned; 55x70 feet; brick and stone; furnace; electric lighting; cost \$10,000; construction will not begin until spring.

Tenn., McKenzie.—Presbyterian church has not let contract for erection of proposed edifice; 50x70 feet; concrete, brick and wood; hot-air heat; lighting not decided; art-glass windows; metal ceiling and roof; cost \$5000. Address R. J. Parnell.

Tex., San Antonio.—Methodist congregation will erect edifice at Highland Park. Address The Pastor, Methodist Church.

Va., Charlottesville.—University of Virginia will rebuild chapel recently reported burned.

COURTHOUSES

Mo., Springfield.—Greene County Commissioners invite bids until March 21 for erection of courthouse, to cost \$250,000. (Recently mentioned.)

DWELLINGS

Ala., Birmingham.—George Papet will erect residence; two stories; veneer; cost \$5000.

Ala., Gadsden.—Banks Hudson will erect residence; site 125x165 feet.

Ala., Gadsden.—W. K. Ives will erect residence.

Ark., Paris.—John I. Baker will erect residence.

D. C., Washington.—Clinton M. Moore, Wisconsin and Idaho Aves. N. W., will erect four colonial detached dwellings at Wisconsin Avenue Park.

Ga., Atlanta.—F. C. Steinhauer is having plans prepared by A. F. N. Everett, 601 English-American Bldg., Atlanta, Ga., for dwelling; brick veneer; steam heat; electric lighting; will also erect garage and servants' houses; cost \$12,000.

Ga., Atlanta.—A. Deenn is having plans prepared by A. F. N. Everett, 601 English-American Bldg., Atlanta, Ga., for dwelling; brick veneer; steam heat; electric lighting; will also erect garage and servants' houses; cost \$12,000.

Ga., Atlanta.—L. G. Neal is having plans prepared by A. F. N. Everett, 601 English-American Bldg., Atlanta, Ga., for dwelling; brick veneer; steam heat; electric lighting; cost \$12,000.

Ga., Savannah.—Marshall T. Respass is having plans prepared by Wallin & Young, Savannah, for bungalow; wood with stucco on metal laths; cost \$5000.

Md., Baltimore.—Frank Novak, 2800 Jefferson St., has plans by Joseph F. Hirt, 2800 Jefferson St., Baltimore, for 24 dwellings on Patuxent St., near Orleans; 22 to be 14x45 feet, one 16x50 feet and the other 15x50 feet; cost \$42,000.

Md., Baltimore.—Clinton P. Greer, 631 North Carrollton Ave., will expend \$5000 to erect dwelling; 31x35 feet; frame; heating not decided; plans being prepared by owner. (Recently mentioned.)

Md., Roland Park.—Station L, Baltimore.—Roland Park Company has plans by Edward L. Palmer, 112 Elmhurst Rd., Roland Park, for nine dwellings on Wilmslow Ave. between Park La. and Wyndhurst Ave.; stucco; shingled roofs stained red; two stories; cottage style; cost \$45,000.

Mo., Kansas City.—N. W. Dible will erect 12 stone dwellings.

Mo., Kansas City.—W. A. Pickering will erect residence; brick; three stories; 52x45 feet; cost \$20,000.

Mo., St. Louis.—L. A. Freker will erect residence.

Mo., St. Louis.—Julius Harris will erect two dwellings.

N. C., Charlotte.—W. D. Rock has plans by Hunter & Gordon, Charlotte, N. C., for eight-room dwelling recently mentioned; ordinary construction; hot-water heat; electric lighting; cost \$5000.

S. C., Bennettsville.—W. S. Mowrey has plans by Ernest V. Richards, Bennettsville, S. C., for proposed dwelling; 50x52 feet; two stories; ordinary construction; frame; slate roof; hot-water heat; electric lighting; cost \$10,000; architect desires correspondence with contractors.

S. C., Mayesville.—T. L. Kahn will rebuild residence reported burned.

Tenn., Chattanooga.—Dr. James P. Houston, 21 Loveman Bldg., has plans by Huntington & Sears, James Bldg., Chattanooga, Tenn., for dwelling; five rooms; 1½ stories; brick veneer and stucco; hard pine interior finish; oak floors; electric and gas lighting.

Tenn., Lookout Mountain.—J. H. Wheelock will let contract about March 5 for erection of six-room addition to dwelling recently described; cost \$3000; plans by Huntington & Sears, James Bldg., Chattanooga, Tenn.

Tenn., Franklin.—A. H. Ewing has plans by T. S. Marr, 701 Stahlman Bldg., Nashville, Tenn., for proposed dwelling; 50x50 feet; ordinary construction; hot-air heat; cost \$4000.

Tenn., Knoxville.—A. H. Nave will open bids about February 25 for erection of six-room dwelling recently noted; two stories and basement; brick and veneer; hot-air heat; plans by R. F. Graff, Knoxville, Tenn.

Tenn., Knoxville.—Mrs. Elizabeth Gibson will expend \$4000 to erect seven-room dwelling recently mentioned; two stories; brick and shingles; hot-air heat; plans by R. F. Graff, Knoxville, Tenn.; bids opened.

Tenn., Knoxville.—J. G. Sterchl will open bids about February 25 for erection of nine-room dwelling recently noted; brick and veneer; steam heat; electric lighting; cost within \$14,000; plans by R. F. Graff, Knoxville, Tenn.

Tenn., Knoxville.—P. J. Briscoe, Jr., has not let contract for erection of dwelling recently mentioned; brick and veneer; steam or hot-air heat; cost within \$15,000; plans by G. F. Barber & Co., Knoxville, Tenn.

Tenn., Knoxville.—W. F. Lenoir is having plans prepared by L. C. Waters, Knoxville, for residence; two stories; foundation and

first story brick and brick veneer; second story effect; cost \$8000.

Tenn., Knoxville.—Church of Holy Ghost is having plans prepared by L. C. Waters, Knoxville, for parsonage.

Tenn., Knoxville.—Phil J. Briscoe, Jr., is having plans prepared by Geo. F. Barber & Co., Knoxville, for residence.

Tenn., Nashville.—R. S. Cowan has plans by Asmus & Norton, Nashville, for residence; one story; veneered stone; slate roof; cost \$7000.

Tenn., Nashville.—B. F. Blankenship is having plans prepared by C. A. Ferguson, Nashville, for residence; gray brick; red tile roof; stone trimmings; cost \$10,000.

Tenn., Lenoir City.—Mrs. T. B. Buck is having plans prepared by L. C. Waters, Knoxville, Tenn., for residence; frame and brick veneer; cost \$5000.

Tex., Quanah.—Temple McFarland reported to erect dwelling.

Tex., Greenville.—Mrs. H. H. Harley contemplates erection of \$3000 dwelling.

Tex., Houston.—Adolph Boldt will erect residence.

Tex., Houston.—J. Lockard will erect residence; nine rooms and bath; cost \$5300.

Tex., Houston.—D. S. Price is having plans prepared by Olin J. Lohren, Houston, for residence; eight rooms; cost \$5000.

Va., Lynchburg.—D. H. Howard is having plans prepared by Frye & Chesterman, Lynchburg, for remodeling Dillard property into residence; 12 rooms; brick; cost \$12,000.

Va., Portsmouth.—Mount Hermon Baptist Church, Glasgow St. Ext. and Florida Ave., will expend \$2500 for improvements to church and erection of parsonage. Address The Pastor, Mount Hermon Baptist Church.

Va., Richmond.—Harvey C. Brown will erect two tenements; three stories; brick; cost \$40,000.

Va., Charleston.—Mrs. Nannie Cotton has plans by Wilbur T. Mills, Columbus, O., for residence.

GOVERNMENT AND STATE BUILDINGS

Ga., Alto.—Sanitarium.—W. G. Raoul, chairman executive committee, Atlanta, Ga., will open bids March 31 for erection of infirmary building and four sleeping-shacks, with attached dressing-rooms, on site selected for State Tuberculosis Sanitarium; buildings to be one story, frame; infirmary building to have basement of masonry; plans and specifications on file at office of Mayor of Columbus, Ga., or of executive committee, 708 Gould Bldg., Atlanta, Ga., or can be obtained from superintendent of construction at Alto; bids for plumbing and heating to be separate from bids for construction; certified check, \$500, payable to J. T. Orme, treasurer.

HOTELS

Ark., Piggott.—Piggott Hotel Co. Incorporated with \$20,000 capital stock; contemplates erection of two-story hotel and small theater; 75x140 feet; cost within \$15,000; T. B. Blackmore, president; J. K. Browning, vice-president; J. M. Myers, secretary and treasurer.

D. C., Washington.—Harding & Upman, 729 15th St. N. W., Washington, are preparing plans for addition to Congress Hall Hotel; 50 rooms, each to have individual bath; estimated cost \$60,000; Silas A. Manuel is manager of hotel.

D. C., Washington.—Orrin G. Staples, proprietor Riggs House, 15th and G Sts. N. W., is having plans prepared for remodeling and enlargement of hotel.

Fla., Jacksonville.—Joseph R. Dunn secured 10-year lease on Cleveland Building at Laura and Forsyth Sts., and will remodel; three-story structure; first floor to be divided into stores; second and third floors to be converted into hotel; 60 rooms, each with bath; passenger elevator; steam heat.

Ga., Atlanta.—Hotel Majestic Co., Mrs. S. H. Van Landingham, Charlotte, N. C., president, will erect addition to Hotel Majestic at 195 Peachtree St., probably adding 100 to 150 rooms; 100 rooms at present; J. Lee Barnes, manager.

Ky., Louisville.—H. A. Hicks and W. C. Cunningham, proprietors of Willard Hotel, will expend \$50,000 in remodeling and enlargement recently noted; improvements to include extension to dining-room and 2 additional baths.

Ky., Louisville.—Tyler estate will soon ask bids on erection of seven-story hotel previously noted; concrete frame, floors and roof slab; size, 70x80 feet; cost withing \$200,000;

plans now being prepared by Kenneth McDonald and W. J. Dodd, 1500 Lincoln Savings Bank Bldg., Louisville; contract to be awarded 30 days after bids are asked.

Miss., God Bold Wells (not a postoffice).—Dr. V. Simmons, Summit, Miss., will erect \$1200 hotel; grates and stoves; gas lighting; bldgs. opened. (See "Machinery Wanted.")

Miss., McComb.—Godbold Mineral Wells Co. will erect \$10,000 hotel.

Mo., Kansas City.—L. J. Kirchner will erect hotel; two stories; brick; 32x100 feet; cost \$12,000.

S. C., Chester.—T. L. Eberhardt contemplates erecting three-story hotel.

Tenn., Dickson.—V. B. Miller (recently noted to rebuild Mays Hotel) has plans for building costing within \$8000; two stories; ordinary construction; 100x80 feet; 35 rooms; steam heat; electric lighting. (See "Machinery Wanted.")

Tex., Canadian.—Robert Moody, president First National Bank, will erect hotel; two stories and basement; brick; steam heat; cost \$30,000.

Tex., Galveston.—J. H. Langley, chairman of committee, is promoting organization of company to erect \$50,000 hotel.

Tex., Vernon.—Carl Zipperly will erect hotel; brick; 60x110 feet; two stories.

Va., Monterey.—H. P. Patterson has plans by Walter S. Gray, Roanoke, Va., for hotel recently mentioned; 40x66 feet; three stories; frame; heating not decided; electric lighting; cost within \$7000.

MISCELLANEOUS STRUCTURES

Ala., Bay Minette.—Jail.—Pauly Jail Building Co., St. Louis, Mo., is lowest bidder at \$21,321 for erection of Baldwin county jail; plans by R. Benz, Mobile, Ala. (Recently mentioned.)

Ala., Birmingham.—Fraternal Hall Association will receive bids until February 26 for erection of fraternal building; reinforced concrete; plans and specifications on file at office of S. S. Joy, 902 9th Farley Bldg., Birmingham. (Previously noted.)

Ark., Cotton Plant.—Business.—Meehan Q. McCowan will erect business building; fireproof; cost \$5000.

Ark., Jasper.—Jail.—Newton County Commissioners are arranging to erect jail.

Ark., Little Rock.—Store.—Schweler & Schay will erect store building; two stories; brick; cost \$6500.

Ark., Texarkana.—Lodge.—Texarkana Camp No. 19, Woodmen of the World, will, it is reported, erect three-story lodge building; cost \$20,000.

D. C., Washington.—Business.—Hornblower & Marshall, architects, 1516 H St. N. W., are preparing plans for remodeling residence at Connecticut Ave. and Jefferson Pl. into business building.

Fla., Jacksonville.—Department Store.—Jacob Cohen, Jacksonville, and Morris Cohen, New York, will erect store building; four or five stories and basement; 210x315 feet; will establish department store; total investment, \$1,000,000.

Fla., Pensacola.—Business.—J. M. Mulden will erect two business buildings.

La., New Orleans.—Orphanage.—Methodist Orphanage will soon award contract for additional dormitory and school building; cost \$55,000.

La., New Orleans.—Lodge.—Kohrsans Lodge, W. G. Tebault, grand vizier, secured Morris residence on South Rampart St. and will remodel for temple.

Md., Baltimore.—Store.—Hochschild, Kohn & Co., Howard and Lexington Sts., are having plans prepared by Joseph Evans Sperry, Calvert Bldg., Baltimore, for addition to department store.

Md., Baltimore.—Home.—Church Home and Infirmary, Broadway and Fairmount Ave., has plans by George R. Morris, Equitable Bldg., Baltimore, for proposed home for nurses adjoining present structure; heating plant on ground floor.

Miss., Corinth.—Store.—B. F. Liddon will open bids April 10 for erection of proposed store building; 25x70 feet; ordinary construction; cost \$4000.

Miss., Magnolia.—Lodge.—Sincerity Lodge No. 214 will erect lodge building; two stories; brick; plate-glass front.

Miss., Vicksburg.—Store.—Kuhn Bros. will rebuild store recently reported burned; loss \$35,000.

Mo., Kansas City.—Business.—Kawmo Wholesale Grocery Co. will erect business building; five stories; fireproof.

Mo., Mexico.—Jail and Infirmary.—Audrain

County Commissioners are considering issuing \$50,000 bonds for jail and infirmary.

N. C., Charlotte.—Business.—W. B. Alexander will erect building to replace structure recently reported burned; cost \$10,000.

N. C., Raleigh.—Store.—Boylan-Pearce Company will erect store building; several stories; 30x210 feet.

N. C., Wilmington.—Sanitarium.—Charles T. Harper will erect two-story frame structure; first floor for stores; second floor, sanitarium; building to be 66x40 feet; ordinary construction; heating and lighting undecided; cost \$6000; plans by Jos. F. Leitner, Wilmington, N. C.; bids to be opened about March 15.

Tenn., Knoxville.—Lodge.—Aerie of Eagles No. 1009 will erect \$30,000 lodge building.

Tenn., Morristown.—Store.—W. H. Mullius will erect store; brick; four stories.

Tenn., Russellville.—Business.—Russellville Grain & Implement Co. will erect concrete business building.

Tex., Beaumont.—W. C. Averill has plans by H. C. Mauer & Co., Beaumont, Tex., for proposed addition to building; 60x100 feet; ordinary construction; electric lighting; passenger elevator.

Tex., Bertram.—Business.—Potts & Ater Bros. will erect business building; two stories; 70x90 feet; brick.

Tex., Canyon City.—Business.—S. A. Shotwell will erect three business buildings; brick; one story.

Tex., Galveston.—Lodge.—Galveston Lodge No. 126 of Elks will soon advertise for competitive plans for \$15,000 lodge building; Fred Hartel, Charles Rhode and W. J. Chapman, building committee.

Tex., Houston.—Business.—Bering Cortes Hardware Co. will erect business building; six stories; fireproof; concrete; replace building burned lately.

W. Va., Fairmont.—Lodge.—Palatine Lodge, No. 84, Odd Fellows, will erect lodge building.

W. Va., Martinsburg.—Hospital.—City will let contract about March 15 for erection of hospital recently mentioned; three stories and basement; 45x54 feet; reinforced concrete; direct steam heat; water or electric power elevator; flat tile roof; will install laundry outfit; cost \$8000; plans by Woltz & Porter, Waynesboro, Pa.

MUNICIPAL BUILDINGS

Ala., Decatur.—City Hall.—City contemplates issuing bonds for erection of city hall. Address The Mayor.

Ga., Atlanta.—Hospital.—City voted issuance of \$100,000 of bonds for addition to Grady Hospital; R. M. Clayton, City Engineer. (Recently mentioned.)

Ge., Statesboro.—City Hall.—City purchased site, 57x133 feet, at \$2500 on which to erect city hall. Address The Mayor.

Okl., Oklahoma City.—City Hall.—City will vote March 7 on issuance of \$100,000 of bonds for erection of City Hall. Address The Mayor.

Tenn., Columbia.—City contemplates erection of city hall; approximate cost \$10,000.

Tenn., Obion.—City Hall.—City will vote March 19 on issuance of \$10,000 of bonds for municipal building. Address The Mayor.

Tex., Amarillo.—Fire Station.—City will vote March 23 on issuance of \$10,000 of bonds for fire station and equipment. Address The Mayor.

Tex., McKinney.—City Hall and Fire Station.—City Council appointed committee, consisting of S. T. Hammond, J. D. Bass and R. E. Carpenter, to select location for proposed city hall and fire station; \$10,000 bond issue available.

Va., Norton.—City Hall.—City will vote on March 10 on issuance of \$15,000 of bonds for city hall. Address The Mayor.

W. Va., Parsons.—City Hall.—City will erect two-story city hall to contain Mayor's office, police station, four cells, etc. Address The Mayor.

RAILWAY STATIONS

Ala., Gordo.—Dr. J. L. Davis will erect two-story brick hotel on site of Hotel Gordo.

Ga., Atlanta.—Joseph Gatkins of New York will erect apartment hotel; nine stories and basement; contain 300 rooms and 100 baths; frame to be steel or reinforced concrete; fireproof throughout; dining-rooms to have verandas to be closed with glass in winter; in rear of structure will be garage to accommodate 20 machines; estimated cost \$500,000; plans by W. L. Stoddart, 31 Union Square, New York.

Ga., Elberton.—Seaboard Air Line Rail-

way, W. L. Seddon, chief engineer, Portsmouth, Va., contemplates, it is reported, erecting passenger station.

Ga., Savannah.—Stock company, F. Bartow Stubbs, president, Pulaski Hotel, Savannah, and Macon, Ga., is having plans prepared by J. de Bruyn Kops, 27 Bay St. E., Savannah, Ga., for hotel on Tybee Island; fire and water proof; three stories; 106 sleeping apartments; 18 bathrooms, to which 36 rooms will be adjacent; also public bath upon each floor; screened roof garden 86 feet long; also dining-room on roof; passenger elevators; open court in center of building to be provided with fountains, etc.; piazza 240 feet long in front; estimated cost \$100,000. (Recently mentioned.)

Ga., Waycross.—Atlantic Coast Line Railroad, E. B. Pleasants, chief engineer, Waycross, N. C., will, it is reported, erect passenger station to cost \$75,000.

Mo., Joplin.—Joplin Union Depot Co. organized to erect union depot; 278x60 feet; brick; contain waiting-rooms, baggage-handling facilities, railroad and other offices; plans by Kansas City architects are nearing completion and engineers are surveying site; at present planned to build train sheds 100 feet in front of station; later, when more tracks have been added, supplementary sheds, all having concrete floors, will be erected; building and sheds to be completed by January 1, 1911; estimated cost of building proper \$280,000 and of grading \$50,000; stated that station, when completed, will represent investment of \$1,000,000; J. B. Hodgdon, engineer, of Joplin, will be in active charge of construction; A. R. Rust, Kansas City, Mo., is acting chief engineer of depot company; railroads interested are Gulf, Colorado & Santa Fe Railway, F. Merritt, chief engineer, Galveston, Tex.; Kansas City Southern Railway, A. F. Rust, resident engineer, Kansas City, Mo.; Missouri & North Arkansas Railroad, F. J. Allen, resident engineer, Eureka Springs, Ark.; Missouri, Kansas & Texas Railway, S. B. Fisher, chief engineer, St. Louis, Mo. (Recently mentioned.)

Tenn., Morristown.—Southern Railway, W. H. Wells, chief engineer of construction, Washington, D. C., submitted plans to Tennessee Railroad Commission at Nashville for depot at Morristown to replace burned structure.

Va., Luray.—Norfolk & Western Railway, C. S. Churchill, chief engineer, Roanoke, Va., will, it is reported, erect freight depot.

SCHOOLS

Ala., Auburn.—B. B. Comer, Governor, Montgomery, Ala., will receive bids until March 21 for erection of brick building for Alabama Polytechnic Institute; certified check for 5 per cent, payable to Alabama Polytechnic Institute; plans and specifications at office of N. C. Curtis, architect, Auburn, on deposit of \$10, \$5 to be returned on receipt of plans in good condition. (Recently mentioned.)

Ala., Birmingham.—Board of Education will receive bids at office of secretary, High School building, until March 1 for erection of two additions to Barker school; certified check and bond required; plans and specifications on file at office of D. A. Helmich, architect, 45 Hood Bldg., Birmingham.

Ala., Birmingham.—School Board, John L. Parker, president, adopted plans by D. O. Whildin, Birmingham, for proposed school at East Birmingham; also proposes erection of \$200,000 high school on Cox property.

Ark., Conway.—State Normal Board of Trustees, B. W. Torreyson, secretary, will receive bids until March 1 for erection of farm adjoining State Normal School.

Ga., Atlanta.—City voted \$600,000 of school bonds to be used as follows: Heating and ventilating old brick schools, \$31,800; repairing Ivy St. school, \$7500; rebuilding Davis St. school, \$7500; rebuilding Walker St. school and for site and erection of school in First ward, \$95,000; rebuilding Crew St. school, purchase of site and erection of school in Second ward, \$90,000; rebuilding Fair St. school, purchase of site and erection of school in Third ward, \$90,000; erection of two schools and purchase of site in Fourth ward, \$50,000; site and erection of school in Fifth ward, \$45,000; rebuilding Lee St. school, \$50,000; site and erection of school in Eighth ward, \$50,000; site and erection of school in Copenhill section, \$45,000; site and erection of school for negroes in Fourth ward, \$38,200; R. M. Clayton, City Engineer. (Previously mentioned.)

La., Franklinton.—City contemplates voting on \$16,000 of bonds for school improvements; bid plans prepared by J. W. Smith, Monroe, La., for brick 76x48-foot building; cost \$15,000; bids to be opened about April 1. Address J. W. Bateman.

Md., Baltimore.—St. Mary's Industrial School, Wilkins and Caton Aves., is having plans prepared by Robert C. Ullrich, 72 Gunther Bldg., Baltimore, for \$100,000 building; 180x64 feet; three stories; stone; fireproof. (Previously mentioned.)

Md., Baltimore.—Sisters of Notre Dame, Charles-street Ave., have plans by Thomas C. Kennedy, 516 Law Bldg., Baltimore, for dormitory; four stories; 165x185 feet; fireproof; cost \$200,000; will also erect powerhouse.

Miss., D'Iville.—Cooper's Institute will probably rebuild dormitory building reported burned; loss \$5000.

Miss., Lambert.—City has plans by Mr. Hal-sap, Columbus, Miss., for proposed high-school building; 40x50 feet; two stories; fire-proof construction; cost \$5000; bids opened.

Miss., Shannon.—City will issue \$7000 of bonds to erect brick school. Address The Mayor.

Mo., Kansas City.—E. T. Russell, Lincoln, Neb., is interested in proposed German Seminary for Seventh-Day Adventists; cost \$200,000.

N. C., Raleigh.—Agricultural and Mechanical College will have plans ready March 15 for erection of engineering and chemistry building recently noted; 170x90 feet; three stories; fireproof construction; steam heat (Webster system); electric lighting; one 4x6-foot freight elevator, hand-power; cost \$50,000; plans by Frank B. Simpson, Raleigh, N. C.; will open bids April 14.

Okla., Custer City.—Custer City School District voted \$25,000 bond issue for school building. Chas. W. Gossom, District Clerk.

Okla., Nashville.—City voted \$12,000 of bonds to erect school. Address The Mayor.

Okla., Oklahoma City.—Oklahoma City Woman's College, A. C. Enoch, president of trustees, will soon begin construction of proposed college at College Park; cost about \$1,000,000.

Tenn., Cumberland Gap.—Lincoln Memorial University is having plans prepared by L. C. Waters, Knoxville, Tenn., for dormitory to replace burned structure; two stories and basement; brick and stone; first story and basement rubble masonry; second story pressed brick; entire frontage, 168 feet, with two wings at right angles; depth, 118 feet; cost \$60,000. (Previously mentioned.)

Tenn., Chattanooga.—Hamilton County Industrial School, J. S. Bell, Montgomery St., Hill City, Tenn., president, awarded \$15,000 by county to erect proposed farm buildings; city may make additional appropriation; W. G. M. Thomas, secretary Board of Trustees. (Previously noted.)

Tenn., Johnson City.—Milligan College will let contract about May 1 for erection of science hall recently noted; 125x78 feet; brick and stone trimmings; steam heat; cost \$35,000; plans by C. G. Mitchell, Johnson City, Tenn. (See "Machinery Wanted.")

Tenn., Johnson City.—State Board of Education inviting plans for buildings. (See Tenn., Nashville.)

Tenn., Leuders.—City is preparing to erect high school; two stories; cost \$10,000. Address The Mayor.

Tenn., Morristown.—Morristown Normal & Industrial School, J. S. Hill, president, will erect \$25,000 building.

Tenn., Murfreesboro.—State Board of Education inviting plans for buildings. (See Tenn., Nashville.)

Tenn., Nashville.—State Board of Education, E. L. Jones, Superintendent, Nashville, Tenn., will receive plans until March 18 for erection of Normal schools at Murfreesboro and Johnson City, Tenn., each to have \$130,000 main building and \$50,000 dormitory; main building to contain chapel with seating capacity of from 800 to 1000, study hall with seating capacity of about 600, rooms for domestic science, manual arts, laboratories, etc.; also for normal school at Memphis, Tenn., to have \$200,000 main building, \$100,000 dormitory, central heating plant and \$30,000 model school, containing at least eight rooms; estimates for both fireproof and ordinary construction desired; stone or concrete foundations; brick superstructure; probably steam heat. (Recently mentioned.)

Tenn., Nashville.—University of Tennessee will erect \$80,000 library building.

Tex., Beaumont.—Guy W. Junker, president of School Board, will receive bids until March 5 for erection of Millard School according to plans by William Drago, 715 Hennen Bldg., New Orleans, La.; also for erection of North End Ward School according to plans and specifications by F. W. Steinman, Beaumont; certified check for 5 per cent, amount of bid, payable to Guy W. Junker; plans at offices of Guy W. Junker, William

Drago and F. W. Steinman, as above, on deposit of \$25, to be refunded on return in good condition.

Tex., Bovina.—Parmer county voted \$12,000 bond issue to erect school. Address County Commissioners, Farwell, Tex.

Tex., Georgetown.—Southwestern University is planning to erect Texas Memorial building to contain administration offices, library, auditorium, Y. M. C. A., Y. W. C. A., etc.; cost \$225,000.

Tex., Mexia.—Tracy McKenzie, secretary of School Board, will receive bids until February 26 for erection of two-story brick school; certified check for \$300; plans and specifications on file at office of Green & Briscoe, architects, Houston, Tex. (Recently mentioned.)

Tex., Milford.—City voted \$20,000 bond issue to erect school. Address The Mayor.

Tex., Pasadena.—Pasadena Independent School District voted \$10,000 of bonds to erect school; L. L. Pugh, County School Superintendent, Houston, Tex.

Tex., Tom Bean.—Tom Bean school district voted \$5000 of bonds to erect school. Address County Commissioners, Sherman, Tex. (Recently mentioned.)

Tex., Temple.—City has not selected architect to prepare plans for High School building; electric lighting; seating capacity about 500; W. Glimmuth, Mayor. (Bond issue noted recently.)

Tex., Waco.—City voted \$140,000 of bonds to erect school; James B. Baker, Mayor. (Previously mentioned.)

Tex., Yorkton.—City contemplates voting bonds for erection of brick school. Address The Mayor.

Va., Disputanta.—Prince George county planning to erect \$800 school. Address County Commissioners, Prince George, Va.

W. Va., Clarksburg.—Board of Education is considering issuance of probably \$200,000 worth of bonds for school improvements.

W. Va., Huntington.—Marshall College is planning to erect dormitory; cost \$75,000.

THEATERS

D. C., Washington.—Circle Amusement Co. is having plans prepared for remodeling three-story brick building at 2105 Pennsylvania Ave. as five-cent theater; expenditure, about \$12,000.

Ky., Paducah.—Joseph Desberger, manager Star Theater, is negotiating for erection of opera house.

La., Eunice.—Company has been organized with \$25,000 capital stock; S. A. Gourney, president; A. F. McGee, vice-president, and S. E. Tate, secretary; to erect theater.

Md., Baltimore.—Sam S. & Lee Shubert, Broadway and 39th St., New York, will not erect theater. (Recently incorrectly reported.)

WAREHOUSES

Ga., Milledgeville.—Farmers' Warehouse Co. incorporated with \$25,000 capital stock by Miller S. Bell, W. A. Walker, W. T. Garfield, J. R. Torrence and others.

Ky., Carlisle.—Nicholas County Board of Control is planning erection of warehouse with capacity for 8000 hogsheads of tobacco.

La., New Orleans.—Dock Board, Hugh McCloskey, president, instructed engineers to prepare plans and estimates of cost of constructing two-story shed or warehouse, 2800 feet long and from 150 to 300 feet wide.

Md., Baltimore.—Christopher J. Dunn, 307 North Calvert St., will erect warehouse at 39 North Calvert St.; size 29x100 feet; mill construction; heating and lighting undecided; cost \$1800; day's labor; building will be occupied by Baltimore Electric Supply Co., 215 North Calvert St.

Tex., Austin.—Voss & Kooock will erect wholesale house with warehouse attached.

Tex., Dallas.—Elmer L. Scott is considering erection of warehouse.

Tex., Knox City.—Farmers' Union Warehouse Co., recently noted incorporated with \$200 capital stock by W. H. Benedict and others, will erect 60x100-foot warehouse. (See "Machinery Wanted.")

Tex., Quanah.—Smith & Hughs reported to erect warehouse to cost \$15,000.

Tex., Waco.—Citizens' Street Railway Co. will erect warehouse, etc. (See "Railway Shops, Terminals, etc.")

Va., Staunton.—Dr. C. H. Cohron & Son will rebuild hay and grain warehouse recently reported burned; frame building; metal-covered siding; size 45x90 feet; cost \$3500; plans not drawn; will install elevator. (See "Machinery Wanted.")

W. Va., Bluefield.—Bluefield Hardware Co. has not selected architect to prepare plans

for four-story warehouse and office building; 100x90 feet; ordinary construction; brick; hot-water heat; electric lighting; cost \$30,000.

BUILDING CONTRACTS AWARDED

APARTMENT-HOUSES

Fla., Tampa.—G. C. Warren awarded contract to C. F. Aulick of Tampa to erect apartment and store building; three stories; brick; three storerooms on first floor and apartments above; cost \$30,000.

Ky., Louisville.—W. M. Reeser, 1441 Fourth Ave., will expend \$26,000 to erect three-story apartment-house recently noted; 58x58 feet; brick and concrete; steam heat; electric lighting; plans and construction by owner; detail work.

Tex., Fort Worth.—J. J. Parker purchased site 96x156 feet and has contracted for erection of apartment house; two stories; brick and concrete; 14 apartments of four rooms and bath each; natural gas; cost \$20,000.

Tex., Wharton.—R. S. Rockwood awarded contract to Joplin Bros. of Wharton to erect two-story brick apartment and store building.

BANK AND OFFICE BUILDINGS

La., Baton Rouge.—First National Bank and People's Trust & Savings Bank awarded contract to Mitchell & Murphy, New Orleans, La., and George W. Miller, Atlanta, Ga., to erect bank building; one story and basement; 36x80 feet; terra-cotta exterior; ornamental metal work; reinforced concrete construction; reinforced concrete burglar-proof vaults; direct steam heat; electric lighting; bronze and marble fixtures; cost \$35,000; W. L. Stevens Co., Hennen Bldg., New Orleans, La., prepared plans and will supervise construction. (Previously mentioned.)

Tex., San Antonio.—J. P. Haynes of San Antonio, contractor, has begun excavation for proposed addition to Moore Building for estate of G. Bedell Moore; structure at present is to be six stories high and cost \$500,000; steel for 10-story building has been ordered and additional stories will eventually be added; plans by Atlee B. Ayres of San Antonio.

CHURCHES

Tenn., Howell.—Presbyterian Church awarded contract to A. P. Taylor & Co., Howell, Tenn., for erection of proposed edifice; 30x40 feet, with additions 14x20, 10x11 and 8x20 feet each; mif construction; cost \$2000.

Tenn., Kerrville.—West Union Presbyterian Church awarded contract to G. H. Trobaugh, Atoka, Tenn., for proposed edifice; 32x56 feet; frame; cost \$1500; plans by Bowen & Johnson, Memphis, Tenn.

Tenn., Nashville.—Cleveland Street Presbyterian Church awarded contract to W. L. Wheeler, Nashville, Tenn., for proposed edifice; 60x80 feet; ordinary construction; hot-air heat; cost \$12,000; plans by W. A. Cann, Nashville, Tenn.; will let subcontracts. Address Mr. Wheeler. (See "Machinery Wanted.")

Tenn., Sharon.—Presbyterian Church awarded contract to J. W. Walters, Martin, Tenn., for proposed edifice; 48x60 feet; brick; metal roof; cost \$4000; bids open for carpenter work.

DWELLINGS

D. C., Washington.—Clarke Waggoner, 2600 Connecticut Ave., N. W., will erect dwelling at 2136 R St., N. W.; three stories; brick; cost \$30,000; plans and construction by owner.

D. C., Washington.—Meta Rautenberg awarded contract to William Coon, 1853 9th St., N. W., Washington, for dwelling at 346 Oakwood Terrace; two stories; brick; cost \$5000; plans by A. H. Beers, 1333 G St., N. W., Washington.

D. C., Washington.—C. Livingston awarded contract to C. W. Williams, 1240 Maryland Ave., N. E., Washington, for three two-story dwellings from 4319 to 4323 8th St., N. W.; cost \$9000; plans by L. T. Williams, Washington.

D. C., Washington.—D. R. Tuckerman awarded contract to C. A. Campbell, 1226 H St., N. W., Washington, for office and dwelling at 1213 Connecticut Ave., N. W.; three stories; brick; cost \$10,000.

Ga., Macon.—Emory Winship awarded contract to Wilder & Paulin, Macon, Ga., for erection of proposed dwelling; cost \$20,000; plans by Norman, Hentz & Reid, Atlanta, Ga.

Md., Baltimore.—Owners' Realty Co., Cal-

vert Bldg., awarded contract to J. N. Hubbard, Baltimore, for erection of nine dwellings on Moreland Ave.; two stories; brick; porch fronts; 14x80 feet; cost \$2000 each.

Miss., Gulfport.—J. W. Albrecht awarded contract to D. J. Haire, Gulfport, for erection of \$5000 bungalow on Bayou Bernard.

Mo., Kansas City.—Reed Realty Co. has plans by and awarded contract to Chas. B. Reed, 3800 Wabash Ave., Kansas City, Mo., for erection of 24 dwellings recently mentioned; hot-air furnace; cost \$32,000. (See "Machinery Wanted.")

Mo., St. Louis.—Mrs. C. Weindel awarded contract for erection of dwelling recently noted; two stories; 27x32 feet; slate roof; hot-water heat; electric lighting; cost \$7000; plans by Foell Architectural Co., 3349 California Ave., St. Louis, Mo.

Tenn., Nashville.—F. O. Watts awarded contract to E. & N. Manufacturing Co., Nashville, Tenn., for erection of 10-room dwelling recently noted; brick; cost \$20,000; plans by Thos. S. Marr, Nashville.

Va., Norfolk.—W. J. Sculatus awarded contract at \$3000 to R. H. Stallings, Norfolk, for residence; brick and frame.

Va., Norfolk.—L. Terwilliger awarded contract at \$4343 to L. McCloud, Norfolk, for erection of frame residence.

W. Va., Upland.—John Woods awarded contract to Carl Boyd, Upland, for erection of residence; cost \$4000.

GOVERNMENT AND STATE BUILDINGS

HOTELS

Ky., Paducah—Postoffice.—B. T. Davis of Paducah has contract at \$8000 to remodel interior of United States Postoffice and Courthouse; Moore & Sons, Nashville, Tenn., have contract for exterior stone work. (Recently mentioned.)

Ark., Hope.—J. H. Betts awarded contract to N. A. Webster, Texarkana, Ark., for erection of hotel recently noted; 90x100 feet; two stories; brick; cost \$20,000; plans by Stewart, Witt & Siebert, Texarkana, Ark.

Tenn., Athens.—Mrs. R. N. Magill, proprietor Magill Hotel, adopted plans for enlarging and remodeling structure; contract awarded to Binna Young & Son, Sweetwater, Tenn.

MISCELLANEOUS STRUCTURES

Ark., Cotton Plant—Business.—Mechan & McGowan awarded contract for erection of business building; brick; fireproof; 100x40 feet; cost \$5000.

Ark., Little Rock—Icehouse.—Retail Grocers' Ice Co. awarded contract to Mobley & Mobley, Little Rock, for erection of icehouse; one story; concrete; cost \$4750.

Fla., West Palm Beach.—Palm Beach County awarded contract to T. J. Grier & Co., West Palm Beach, for stone work, and to Franz Steel Works, Jacksonville, Fla., for steel and cell work on proposed county jail; solid concrete, 16 inches thick.

Fla., Pensacola—Mercantile.—M. A. White awarded contract to C. H. Turner Construction Co., Pensacola, Fla., for remodeling two-story mercantile building; 43 feet 7 inches by 12 feet 3 inches; ordinary construction; electric and gas lighting; freight elevator; cost \$7500; plans by Blount Architectural Co., Pensacola.

Ga., Elberton—Business.—Elberton Cotton & Compress Co. awarded contract to Elberton Brick Co., Elberton, for erection of business building; brick; steel and plate-glass front; two or three stories; if third story, for opera-house if erected.

La., Lafayette—Store.—Lacost Hardware Co. will expend \$800 to erect store building; two stories; 55x74 feet; brick; fireproof vault; freight elevator (Otis); electric lighting; plans by G. B. Knapp, Lafayette, La.; J. A. Van Dyke, Lafayette, La., recently noted receiving contract.

La., New Orleans—Store.—E. Perrin, 100 Perrin Bldg., awarded contract to W. T. Carey & Bros., New Orleans, La., for erection of proposed store building; two stories; 28x107 feet; fireproof construction; cost \$95,000; plans by Tolando & Wogan, New Orleans, La.

Md., Baltimore—Store.—J. Edward Bird & Co., Park Ave. and Lexington St., awarded contract to John Hiltz & Sons Co., 3 Clay St., Baltimore, for erection of store and warehouse at 120 Liberty St.; three stories; sandstone exterior; cost \$12,500; plans by Paul Emmart, 210 West Fayette St., Baltimore.

Md., Baltimore—Store.—Anthony Dipaula, North and Greenmount Aves., has plans by and awarded contract to Arthur L. Blatchley, 2911 York Rd., Baltimore, for erection of

store and apartment previously mentioned; 20x80 feet; steam heat; electric and gas lighting; cost \$7500.

Md., Cumberland—Stable.—Wright & Fisher awarded contract to S. W. Wise, Cumberland, for rebuilding stable previously reported burned; building will be 64x184 feet; mill construction; natural-gas heating; electric lighting; elevators; cost \$10,300; plans by Wright Butler, Cumberland.

Miss., Brookhaven—Store and Lodge.—J. Cope awarded contract to M. E. Dye, Glaston, Miss., for erection of store and lodge building; two stories; 62x100 feet; one wing, one story high; 62x68 feet; ordinary construction; brick; cost \$13,268; plans by Eugene McCormick, Brookhaven, Miss. (See "Machinery Wanted.")

N. C., Wilmington—Home.—Seamen's Friend Society awarded contract to R. H. Brady, Wilmington, for erection of Seamen's Home; two stories; three-story effect; frontage 40 feet; brick; cut stone trimmings; cost \$5000; plans by Hook & Sawyer, Charlotte, N. C.; completion by October. (Previously noted to receive \$500,000 endowment.)

Tenn., Bristol—Business.—Claude H. Brady will expend \$7500 to rebuild burned structure; three stories; 25x130 feet; ordinary construction; gas lighting; hand-powered elevator; contract recently noted awarded to Smith & Wilson, Bristol, Tenn.

Tex., Abilene—Store.—L. A. Pires awarded contract to H. J. Curtis, Dallas, Tex., for erection of store building recently noted; 25x75 feet; two stories; ordinary construction; steam heat; electric lighting; cost \$12,000; plans by Geo. W. Burnett, Bristol, Tenn.

Tenn., Bristol—Store.—King-Kaylor Co. incorporated with \$100,000 capital stock; awarded contract to Jake S. Henninger, Bristol, for erection of clothing store; 30x134 feet; three stories; brick; ordinary construction; steam heat; electric lighting; cost \$12,000; plans by Gus Birkner, Uvalde, Tex.

Tex., Dallas—City awarded contract, at \$10,300, to J. M. Green, Dallas, for erection of six-room school for negroes.

Tex., Hedley—Hedley school district No. 5 will expend \$8000 to erect six-room school building; 60x64 feet; two stories; ordinary construction; plans by C. A. Kelso, Hutchinson, Kansas; contract recently noted awarded to Rawlins Bros., Memphis, Tenn.

Tex., Livingston—City awarded contract for erection of eight-room school; cost (furnished) \$18,500; plans by C. H. Page & Bro., Austin, Tex. (Recently mentioned.)

Va., Amelia—Giles District School Board awarded contract at \$6446 (exclusive of heating) for erection of high school; 52x52 feet; two stories and basement; concrete foundation; brick; slate roof; Lee & Parrish, contractors, Burkeville, Va.; Charles M. Robinson, architect. (See "Machinery Wanted.")

and Telfair Sts.; plans and specifications by G. Lloyd Preacher, Dyer Bldg., Augusta. (Recently mentioned.)

SCHOOLS

Ala., Huntsboro.—Board of Education awarded contract to W. B. Harris, Columbus, Ga., for erection of school building recently noted; 70x90 feet; ordinary construction; cost \$9000; plans by T. W. Smith & Co., Columbus, Ga.

Ark., Osceola.—School Board will expend \$18,500 to erect school building; two stories and basement; ordinary construction; steam heat; plans by L. M. Weatherly, Seminary Bldg., Memphis, Tenn.; contract recently noted awarded to W. A. Prather. (See "Machinery Wanted.")

Fla., Jacksonville.—City awarded contract to A. R. Doran, Jacksonville, for erection of school at Pelham; one story.

N. C., Durham—Trinity College awarded contract to N. Underwood, Durham, for first of group of buildings; 18 recitation-rooms; two stories; high basement; 90x172 feet; cost \$70,000; plans by Hook & Sawyer, Charlotte, N. C.; completion by October. (Previously noted to receive \$500,000 endowment.)

Tex., Commerce.—City has plans by and awarded contract to M. A. Markley, Commerce, for erection of four-room school building; mill construction; steam heat; cost \$5000; M. A. O'Neal, Mayor. (Recently noted.)

Tex., D'Hanis.—School Board will expend \$7000 to erect school building; two stories; 26x64 feet; mill construction; brick; plans by F. B. Ganslem, San Antonio, Tex. (Recently noted to have awarded contract to Gus Birkner, Uvalde, Tex.)

Tex., Tex., Tex.—City awarded contract, at \$10,300, to J. M. Green, Dallas, for erection of six-room school for negroes.

Tenn., Hedley—Hedley school district No. 5 will expend \$8000 to erect six-room school building; 60x64 feet; two stories; ordinary construction; plans by C. A. Kelso, Hutchinson, Kansas; contract recently noted awarded to Rawlins Bros., Memphis, Tenn.

Tex., Livingston—City awarded contract for erection of eight-room school; cost (furnished) \$18,500; plans by C. H. Page & Bro., Austin, Tex. (Recently mentioned.)

Va., Amelia—Giles District School Board awarded contract at \$6446 (exclusive of heating) for erection of high school; 52x52 feet; two stories and basement; concrete foundation; brick; slate roof; Lee & Parrish, contractors, Burkeville, Va.; Charles M. Robinson, architect. (See "Machinery Wanted.")

THEATERS

Tex., Bryan—City awarded contract to G. C. Street, Houston, Tex., for erection of theater and city hall. (See "Municipal Buildings.")

WAREHOUSES

Md., Baltimore—Tyler Bros. secured permit for erection of proposed warehouse at 412-420 West German St.; 87x112 feet; slab roofing; hot-water heat; two electric elevators, one for passengers and other for freight; building will be of mill construction; electric lighting; cost \$45,000; plans by Paul H. Tuzo, 11 East Pleasant St.; contract awarded to Morrow Bros., 218 West Saratoga St., both of Baltimore.

Va., Lynchburg—Lynchburg Foundry Co. awarded contract to C. M. Hancock & Son, Lynchburg, Va., for erection of warehouse; four stories; 32x39 feet; fireproof construction; two freight elevators, 4000-pound belt power; cost \$20,000; O. C. Wiley, consulting engineer.

RAILROAD CONSTRUCTION

RAILWAYS

Ark., Fort Smith—The Fort Smith & Interurban Railroad Co. says an official letter, will build 25 miles of line from Fort Smith to Greenwood, Ark., via Bonanza and Jenny Lind. The country is approximately level. Final survey not made. The directors are George Sengel, president and general manager; Jerome Sengel, secretary, treasurer and chief engineer; C. E. Warner, Herschel Hunt and George Sengel, Jr., all at Fort Smith, Ark.

Ark., Letona.—A letter to the Manufacturers' Record confirms the report that the Doniphan Lumber Co. of Doniphan, Ark., contemplates building a line from Letona westward into Cleburne county.

Ark., Little Rock.—The Missouri Pacific

Railway, it is reported, will remove its shops from Hot Springs to Little Rock, erecting new buildings. E. F. Mitchell is engineer of construction at St. Louis, Mo.

Ark., McGregor.—The Central Arkansas & Eastern Railroad has been granted a charter to build two extensions, one of 15 miles from McGregor southeast to a point near Stuttgart, and another of 20 miles northwest to a connection with the Rock Island; the capital will be increased from \$100,000 to \$800,000; the directors are Lewis Sachs, Robert M. Foster and W. J. Locke.

Ark., Rogers.—Concerning the proposed interurban railway to connect Rogers, Bentonville and Gentry, Ark., 32 miles, one of the interested parties says survey is not completed. Roy Davis of Rogers, Ark., and others are reported interested, including James D. Houseman, 414 Roe Bldg., St. Louis, Mo. G. G. Sutherland is reported associated with Mr. Houseman in the enterprise.

Fla., De Funak Springs.—John J. MacIntyre, promoter of the Gulf, De Funak & Northern Railroad, will announce the route later.

Fla., Jacksonville.—The St. Johns River Terminal Co. proposes to lay six tracks across Liberty St. and one track over Walnut St. to reach the site in North Springfield where it proposes to erect shops and roundhouses. A bill is now pending in the City Council. M. Riddle, general superintendent of the Atlantic Coast Line, or M. S. McDowell, division engineer, both at Jacksonville, Fla., can probably give information.

Fla., Ocala.—Construction is reported begun on the extension of the Ocala & Northern Railway between Ocala and Palatka, Fla.

Fla., Pensacola.—A dispatch says that J. M. Kinney and Charles W. Merritt of Pensacola have been given a contract by the Pensacola, Mobile & New Orleans Railroad for grading several miles of line in Baldwin county, Alabama, to be finished in three months. Henry McLaughlin is president at Pensacola, Fla.

Ga., Albany.—The Albany & Northern Railroad, 35 miles long from Albany northeast to Cordele, Ga., has been purchased by the Georgia Southwestern & Gulf Railway Co., and will be extended from Albany to St. Andrews Bay, Fla., on the Gulf of Mexico. W. M. Legg is general manager at Albany, Ga.

Ga., Americus.—George W. Deen, president of the Deen Realty & Improvement Co., Waycross, Ga., informs the Manufacturers' Record that it is proposed to build a railroad, as reported, from Americus via Ashburn and Oella to Waycross. Thence the line will run to St. Marys, and finally to Jacksonville, Fla. The matter is only now being agitated. A dispatch says a committee to draft a charter has been appointed thus: From Americus, Crawford Wheatley, C. M. Eldridge and Lee Allen; from Oakfield, W. J. Hall and J. E. Campbell; from Doles, M. L. Champion, C. T. Amason and Murray Gardner; from Ashburn, J. S. Shingle, J. S. Betts, R. L. Betts, J. L. Evans, W. A. Murray and J. B. Hutchison; from Irwinville, J. B. Clements; from Waycross, C. M. Sweet and W. W. Lambdin. It is contemplated to absorb the Oella Southern Railroad, 16 miles long.

Ga., Carnesville.—At a public meeting a considerable sum was reported subscribed to build a railroad from Toccoa to Carnesville. The Mayor may be able to give information.

Ga., Elberton.—W. O. Jones and others are reported interested in a movement to build a railroad from Elberton to Washington, Ga., about 30 miles.

Ga., Newnan.—A letter says that right of way has been obtained by the Western & Georgia Railroad from Franklin via Newnan to Atherton, on the Atlanta, Birmingham & Atlantic Railroad, and construction will begin soon. J. N. Orr is president, R. M. Hall chief engineer, Newnan, Ga. Ira L. McCord & Co., 42 Broadway, New York, are the general contractors.

Ga., Valdosta.—The Georgia Southern & Florida Railway is reported to have bought land in the southern part of the city and will build extensive repair shops and a roundhouse. New yard tracks are also to be laid. W. C. Shaw, Jr., is chief engineer at Macon, Ga.

Ky., Frankfort.—The Louisville & Nashville Railroad, says a dispatch, has invited bids to build 9½ miles of extension of the Kentucky Highlands Railroad to Versailles, Ky. W. H. Courtney is chief engineer at Louisville, Ky.

Ky., Waslo.—An officer of the Callahan Construction Co., Knoxville, Tenn., says it was awarded contract by the Louisville & Nashville Railroad to extend the Waslo & Black Mountain Railroad, about 25 miles, to Harlan, Ky. The construction begins near Pineville, and is "practically all mountain

rock work, with some nice team borrow and considerable concrete and cut-stone masonry." There will be about 600,000 yards excavation and 10,000 yards of masonry, the former in sandstone, shale and earth. Cars and cart outfit will be used; no steam shovels. Work already under way. E. R. Keller, general superintendent, is in charge at Pineville, Ky., and is subletting part. A tunnel 520 feet long, at first proposed, will be eliminated by a change of location. J. E. Willoughby, engineer of construction for the Louisville & Nashville, will be chief engineer in charge.

La., Lafayette.—The Southern Pacific Railroad is reported to have begun survey for a branch from Billeaud Refinery to Long Plantation. A. V. Kellogg is chief engineer at Houston, Tex.

La., Melville.—F. M. Welch of New Iberia, La., is reported interested in a projected railroad from Livonia to Morganza, about 100 miles, via Melville.

Md., Baltimore.—The Northern Central Railway Co. (Pennsylvania system) is reported to have let contract to the Jones & Laughlin Steel Co. for about 1300 tons of structural steel for the new union station in Baltimore. Considerably more steel will also be required for the new train sheds. Gamble Latrobe is general agent at Baltimore, Md.

Md., Baltimore.—The Northern Central Railway will build a roundhouse, engine house and coaling station at Orangeville, in the eastern suburbs of Baltimore (instead of at Highlandtown), and will also enlarge the classification yards at Mount Vernon, near Union Station. Gamble Latrobe is general agent and F. Duane assistant engineer at Baltimore. J. H. Nichol is principal assistant engineer at Williamsport, Pa.

Md., Frederick.—Walter S. Taylor, general manager of the Frederick Railroad Co., operating lines from Frederick to Thurmont and Frederick to Middletown, Md., has applied for authority of the City Council to lay tracks on 5th St. and on Market St. It is also proposed to establish a freight yard and car shop. An extension from Jefferson to Brunswick, Md., will soon be undertaken.

Md., Hancock.—The Tuscarora Valley Railroad is reported to have begun work on its proposed extension southward from a point in Pennsylvania to connect with the Western Maryland Railroad two miles east of Hancock. N. H. Suloff is president and general manager at Port Royal, Pa.

Miss., Carthage.—The incorporators of the Carthage, Meridian & Panama Railroad Co., recently chartered to build a line from Carthage via Union to Meridian, Miss., about 60 miles, and thence to Panama, Fla., are William Cornell of Meridian, Miss.; O. O. Gibson of Natchez, Miss., and C. M. Withworth of Mendenhall, Miss.

Miss., Columbus.—A dispatch says that the Columbus, Mississippi & Western Alabama Railroad Co., which proposes to build from Winfield, Ala., via Vernon, in that State, to Columbus, Miss., will soon be ready to announce its plans. Charles F. Sherrod of Columbus and others are interested.

Mo., Sedalia.—A dispatch says it is announced that the Missouri, Kansas & Texas Railway will erect at Sedalia an additional shop for building steel freight cars; also a lighting plant and other buildings. The improvements will cost about \$175,000. S. B. Fisher is chief engineer at St. Louis, Mo.

Mo., St. Louis.—The Missouri, Kansas & Texas Railway Terminal Co., according to a press report, will build a freight depot and spur tracks between Mullanphy and Brooklyn streets, east of Broadway; also a viaduct, besides other improvements, including new yards, and Joseph L. Bryson, attorney, is quoted as saying that altogether about \$7,000,000 will be spent. S. B. Fisher is chief engineer at St. Louis.

Mo., Ava.—The Kansas City, Ozarks & Southern Railroad Co., it is reported, will build an extension from Ava to Gainesville, 25 miles. Address Mansfield, Mo.

Mo., Mount Vernon.—F. C. Yentsch of Mount Vernon, it is reported, is endeavoring to interest capital at Springfield, Mo., to build an interurban railway from Springfield to Carthage, Mo., about 65 miles, via Hazelton, Halltown, Paris Springs, Mount Vernon and Stotts City; furthermore, that the Springfield Traction Co. has made surveys over another route between the two points.

Mo., Bagnell.—An officer of the Missouri Pacific Railway pronounces erroneous a press report that an extension would be built this year from Bagnell to Springfield, Mo.

Mo., Joplin.—The Joplin Union Depot Co., according to a dispatch, has floated \$750,000 of 4½ per cent. bonds for the proposed new union station and \$500,000 will be issued immediately to run 30 years. The Santa Fe system, the Missouri, Kansas & Texas Rail-

way, the Kansas City Southern Railroad and the Missouri & North Arkansas Railroad are interested. The site is being surveyed, and the building, to cost \$280,000, will front 278 feet, with a width of 60 feet. It will be principally constructed of brick, and it is expected that the entire work, including grading and arrangement of tracks, will amount to about \$1,000,000. It is to be completed about the end of this year. J. B. Hodgdon is resident engineer in charge, and the acting chief engineer is A. F. Rust of Kansas City, who is engineer of the Kansas City Southern Railroad.

Mo., Phillipsburg.—One of the incorporators of the Lacledle, Dallas & Western Railroad Co. of Phillipsburg, incorporated to build a line to a point beyond Buffalo, Mo., writes that the right of way is secured and the roadbed nearly completed. It will be 30 miles long.

N. C., Ahoskie.—A movement is under way to build a railroad from Ahoskie, N. C., to Emporia, Va., about 60 or 65 miles, thus making a connection between the Atlantic Coast Line and the Southern Railway. Among those reported interested are W. W. Rogers of Ahoskie; R. P. Dicks of Greensboro, N. C.; B. W. Winborne of Murfreesboro, N. C., and W. S. Goodwin of Emporia, Va.

N. C., Charlotte.—President W. S. Lee of the Greater Charlotte Club has appointed a committee of 15 to prepare a plan to organize a railroad company for a line from Taylorsville to Wilkesboro, N. C., and possibly to Wilkesboro, N. C., 21 miles, and possibly to Jefferson; thence to connect with an independent line to Abingdon, Va.; extensions to Newton and Charlotte, N. C., are contemplated.

N. C., Charlotte.—T. C. Bowe of Ashe county, North Carolina, of which Jefferson is the county-seat, is reported representing large railroad interests to build a line from Damascus, Va., near the North Carolina boundary, to Jefferson, Taylorsville, Statesville, Newton, Catawba and Charlotte, N. C.

N. C., Gulf.—The Sanford & Troy Railroad Co. is reported to have completed its track for operation between Gulf and Colon. This may be extended to Sanford by building about three and three-fourth miles of extension. John H. Kennedy of Gulf, N. C., is chief engineer.

N. C., Newbern.—Franchise is reported granted to A. E. Stevens, W. S. Taylor and associates to build a railway and operate gasoline motor cars on a line in Newbern and extending to Trenton, 18 miles.

N. C., North Wilkesboro.—President W. J. Grandin of the Watauga Railway Co. furnishes information concerning its proposed line thus: Route from Lenoir to Boone, N. C., and Butler, Tenn., with branch to Wilkesboro and North Wilkesboro, N. C.; ultimately a line from Butler to Elizabethton and Johnson City, Tenn.; approximate length of the completed railroad, 120 miles; route along the Yadkin Valley; capital, \$200,000 to \$1,000,000; directors: W. J. Grandin of Tidewater, Pa., president; M. K. McMullin, Pittsburgh, Pa., vice-president; W. W. Beaty, Warren, Pa., secretary-treasurer; O. P. Lutz, Lenoir, N. C., assistant secretary; F. A. Linney and E. S. Coffey, both of Boone, N. C.

N. C., Rutherfordton.—The Isothermal Traction Co. of Rutherfordton has been chartered with \$4000 capital, which may be increased to \$100,000, to build an electric rail-way from Rutherfordton to Gastonia, N. C., 50 miles. Authority is granted to build branches not exceeding 50 miles. T. S. Finch of Charlotte, N. C.; J. F. Flack, W. A. Harrell, E. B. Harris and C. F. Geer of Rutherfordton, N. C., are the incorporators.

N. C., Salisbury.—A letter says that the Piedmont Carolina Railway Co. is building a trolley line in Salisbury and in Concord, and proposes to build a connecting railway between the two cities, 22 miles, making 30 miles of track. Engineering is completed and part of the Salisbury line has been operated. W. F. Snider is president and Thomas J. Jerome secretary. T. H. Vanderford is also interested.

N. C., Statesville.—There have now been voted, according to a published statement,

\$357,500 of bonds for the proposed Statesville Air Line Railroad, this amount including \$65,000 just voted by Mount Airy. A total of \$500,000 is to be secured.

N. C., St. Paul.—President A. W. McLean of the Virginia & Carolina Southern Railroad Co., Lumberton, N. C., writes that the proposed line from St. Paul to Elizabethtown will be 30 miles long through level country. Contract let to Wade & Morrison. No materials needed now. J. F. L. Armfield is vice-president and general manager; J. L. Neill, chief engineer; A. T. McLean, treasurer; H. B. Jennings, secretary.

N. C., Winston-Salem.—The Winston-Salem South Bound Railway, it is reported, will shortly let contracts for tracklaying. H. E. Fries is president and O. H. P. Cornell chief engineer.

Okla., Altus.—The Red River Valley Railroad Co. of Altus has been chartered to build a line from Ardmore, Okla., to Chillicothe, Tex., about 150 miles, at an estimated cost of \$1,600,000. The incorporators are Frank L. Moyer and Joseph De Baum of Davidson, Okla.; Eugene Blazier of Lawton, Okla.; T. D. Trueblood of Terre Haute, Ind., and L. E. Delameter of Grand Forks, N. D.

Okla., Altus.—The Altus, Wichita Falls & Hollis Railroad Co. has been organized to take over and complete the line begun by the Altus, Roswell & El Paso Railway, according to a press report. Frank Bell and J. A. Kemp of Wichita Falls, Tex.; C. C. Hightower, J. A. Henry, C. E. Cage and C. C. Huff are also interested.

Okla., Ardmore.—J. W. Maxcy Company of Houston, Tex., is reported to have begun survey at Lone Grove, 10 miles west of Ardmore, for a railroad toward Lawton.

Okla., Atoka.—The Missouri, Kansas & Texas Railway is reported to have let contract to the Patton-Gibson Construction Co. to revise and regrade the line between Atoka and Limestone Gap at an estimated cost of from \$800,000 to \$1,000,000; the work covers 20 miles and includes some concrete and steel bridge work, which says a dispatch, will be erected by the railroad company. It is expected that another contract of 26 miles to McAlester will be let. S. B. Fisher is chief engineer at St. Louis, Mo.

Okla., Claremore.—An officer writes that the Kutraco Company is incorporated in Oklahoma to promote, organize, finance and build steam and electric railways, gas, water and electric plants and industrial enterprises, besides handling securities, etc. William J. Jones is president at Claremore, Okla., and Altamont, Kans.; O. C. Randall, vice-president and treasurer; Barne McDaniel, secretary, Altamont, Kans., and P. G. Walker, consulting electrical engineer. The directors are William A. Frishy of Simons, Tex., president; Lee Frishy, 921 Congress Ave., Austin, Tex., general manager; Charles T. Burns of Boston and others. W. M. Wells is chief engineer. Bids for construction and equipment will be opened April 1.

Tex., Dallas.—An officer of the Rock Island Line says, concerning the construction of freight terminals at Dallas, that while such an improvement is contemplated, no definite plans are made, and owing to complications, the matter is likely to remain quiet for some time.

Tex., Dallas.—The Chicago, Rock Island & Gulf Railway will soon improve its terminal facilities at Dallas at a cost of from \$50,000 to \$100,000, including tracks and a freight depot. A. B. Warner is chief engineer at Fort Worth, Tex.

Tex., Fort Stockton.—Will L. Sargent and associates propose to build a railroad 53 miles long from Monahans, Tex., to Fort Stockton via Grand Falls, including a bridge about 150 feet long over the Pecos River. The route is through country nearly level. A proposition has been submitted to the Fort Stockton (Tex.) Commercial Club, of which W. R. Chancellor is secretary.

Tex., Houston.—Preparations are reported under way by the Stone & Webster Engineering Corporation of Boston to begin construction within a month, and possibly much sooner, on the interurban railway from Houston to Galveston, about 55 miles, to cost about \$2,000,000, including a main power-house at Texas City and at least three sub-power stations. The contract requires completion by December 31, 1910. A depot is to be erected at the foot of Texas Ave. in Houston, besides other stations, including the main terminal. Mark Lowd, Southwestern manager for the Stone & Webster Corporation, will be chief engineer, with J. B. Townsend as first assistant.

Tex., Lamesa.—The Pecos & Northern Texas Railroad (Santa Fe system) has amended its charter for the proposed line from Lamesa to a point near Lubbock, 55 miles, connecting with its new road from Texico to Coleman, Tex. It will touch Tahoka and other points. The amendment also provides for a branch from Plainview to Dickens, Tex., 70 miles, and another branch from Lubbock to the Texas boundary in Cochran county, 75 miles. Avery Turner is vice-president and Woodbury Howe principal assistant engineer, both at Amarillo, Tex.

Tex., Lometa.—The Gulf, Colorado & Santa Fe Railway is reported to have let contracts for the proposed line from Lometa to Eden, Tex., about 100 miles, each contractor getting some 30 miles of line. The first section went to Morey & Faulhaber, Chemical Bldg., St. Louis, Mo.; the second to Levy & Owens of Galveston, Tex., and the third to the C. H. Sharp Contracting Co., Sharp Bldg., Kansas City, Mo. The last is the largest. F. Merritt, Galveston, Tex., is chief engineer. A large bridge 85 feet high is required over the Colorado River, this being in the first 15 miles. It will demand a 200-foot truss over

has been chartered to build a line from Oliver Springs, in Anderson county, to Lansing, in Morgan county, about 20 miles. The incorporators are J. W. Prevost, J. M. Cassil, C. M. Franklin, E. E. Ferguson and John W. Green.

Tenn., Winchester.—An official letter says that the Tennessee River Railroad Co. is building its line from Richard City to the head of Kings Cove, about six miles, where a town (Rexton) is being formed. Grading is completed and more than four miles of track laid. Expected to operate the line by March 15. Construction is under way on the mountain incline. The officers are: Arthur Crownover, president; I. P. Byrom, vice-president; I. W. Crabtree, secretary and treasurer, all at Winchester, Tenn. Capt. G. H. Crozier of South Pittsburg, Tenn., is general superintendent and engineer in charge.

Tex., Alvin.—The Gulf, Colorado & Santa Fe Railway is reported to have purchased land for a depot to be erected at a cost of \$20,000. F. Merritt is chief engineer at Galveston, Tex.

Tex., Aransas Pass.—The Aransas Pass Commercial Club, on behalf of the citizens, is reported as offering a bonus of \$50,000 to secure another railroad running northward. W. R. Chancellor is secretary.

Tex., Beeville.—The Nueces River Valley Railroad Co., according to official information, will build a line 175 miles long from Beeville to Eagle Pass, Tex., via Oakville, Tilden, Cotulla and Carrizo Springs, including four bridges, three of them over the Nueces River at different points. The contractor is C. K. Conant, Fort Worth, Tex. The directors are William A. Frishy of Simons, Tex., president; Lee Frishy, 921 Congress Ave., Austin, Tex., general manager; Charles T. Burns of Boston and others. W. M. Wells is chief engineer. Bids for construction and equipment will be opened April 1.

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MANUFACTURERS' RECORD.

the stream, also a 100-foot girder span and a 60-foot girder span, besides a long trestle approach. The route is via San Saba, Richland Springs and Brady.

Tex., San Angelo.—The Kansas City, Mexico & Orient Railway has filed an amendment to its charter for the proposed branch from San Angelo to Del Rio, Tex., about 160 miles. W. W. Colpitts is chief engineer at Kansas City, Mo.

Tex., San Antonio.—The Galveston, Harrisburg & San Antonio Railroad, says a dispatch, will build a 16-stall roundhouse of brick at Glidden, on the San Antonio division, and at San Antonio a car repair shed 50x200 feet will be erected. A. V. Kellogg is engineer in charge of way at Houston, Tex.

Tex., San Angelo.—Roach & Stansell, contractors, Memphis, Tenn., are reported to have been given another contract by the Kansas City, Mexico & Orient Railway Co. to build 50 miles of line between Edwards and San Angelo, Tex.

Tex., Temple.—W. O. Cox and W. S. Banks of Temple are quoted as saying that the Temple & Northwestern Railroad Co., for which charter will be filed in a few days, proposes to build from Temple via Gatesville to Hamilton, Tex., 65 miles.

Tex., Temple.—The Gulf, Colorado & Santa Fe Railway, says a dispatch, will build at Temple a hotel and eating-house to cost \$140,000. F. Merritt is chief engineer at Galveston, Tex.

Tex., Vernon.—George W. Angle, chief engineer of the Central Construction Co., is quoted as saying that location survey is under way between Vernon, Tex., and Miami, Okla., for the proposed American Central Railway. It will continue surveys to Texola, Mangum and Olathee, Okla., 160 miles. Southward the line will eventually be extended from Vernon to San Antonio, Tex., via Brownwood, San Saba and Llano, and survey will begin next summer.

Tex., Wichita Falls.—R. H. Baker of Houston, Tex., denies the press report that he is interested with J. A. Kemp and Frank Kell in connection with the purchase of the Altus, Roswell & El Paso Railway. He also says that he is not interested with them in any way.

Va., Luray.—The Norfolk & Western Railway, according to a press report, will build a freight depot of brick. C. S. Churchill is chief engineer at Roanoke, Va.

Va., Norfolk.—The Lynnhaven Terminal Corporation proposes to build a tunnel between Portsmouth and Norfolk under the Elizabeth River and also to build a railroad. J. Edward Cole is secretary.

Va., Petersburg.—The Norfolk & Western Railway, says a dispatch from Roanoke, has let contracts to Joseph H. Sands of Roanoke to build the Petersburg cut-off, nine miles long. Several concrete culverts will be necessary. C. S. Churchill, Roanoke, Va., is chief engineer.

Va., Roanoke.—The Norfolk & Western Railway has let contract to Carpenter & Boxley of Roanoke for three miles of double track and several tunnels east of Huger, W. Va., which contract was previously awarded to J. R. Serpell & Son of Louisville, Ky., who are reported to have declined it.

Va., Richmond.—President George W. Stevens of the Chesapeake & Ohio Railway confirms the report that the directors have decided to expend about \$5,000,000 for improvements this year. Details are not yet worked out. A press report says that double-tracking, enlargement of yards, the building of more sidetracks and other work will be undertaken. H. Pierce is engineer of construction at Richmond, Va. A dispatch from Huntington, W. Va., says double track will be built from Russell, Ky., to Cincinnati, O., and storage yards between Brent and Dayton, Ky. It is also reported from Richmond that the company has purchased 300 acres of land in Fulton near Richmond and that its principal shops will be established there.

W. Va., Berwind.—A press report says that the Norfolk & Western Railway is securing rights of way for a line from Canebrake, above Berwind, to Cedar Bluff, which will connect the Aegean & Southern branch with the Clinch Valley division. C. S. Churchill is chief engineer at Roanoke, Va.

W. Va., Morgantown.—The Sabaton Traction Co., in which George G. Sturgiss and others were interested, is reported sold to Harry R. Warfield, who will extend the line immediately to Dellslow.

W. Va., Parsons.—The Atlantic Northern Railroad Co., capital \$50,000, has been incorporated by James W. Flynn and others of Kingwood to build a line along Cheat River from Parsons to Rowlesburg, W. Va., to open up timber land.

W. Va., Wellsburg.—The Wellsburg, Bethany & Washington Railway Co., says a report, contemplates building extensions and connections in Wellsburg.

W. Va., Kingwood.—The Cheat River & Monongahela Valley Railroad Co. has been chartered to build a line from a point near Albright in Preston county, West Virginia, to a point near the State boundary at Cheat Haven, Pa. The incorporators are E. M. Lantz, William S. Downs, James W. Flynn, Neil J. Fortney and Julius K. Monroe of Kingwood, W. Va.

W. Va., St. Albans.—Contract is reported let to Johnson & Briggs for three miles of railroad from Julian, on the Coal River Line, up Horse Creek to coal mines. It will be extended to timber land owned by D. G. Courtney of Charleston, W. Va., and will be about 30 miles long.

W. Va., Sistersville.—I. M. Underwood and John F. Shore of Middlebourne, W. Va., besides T. Moore Jackson of Clarksburg, W. Va., are reported interested in the proposition to build an electric railway from Sistersville to Middlebourne.

STREET RAILWAYS

Ala., Birmingham.—The annual report of the Birmingham Railway, Light & Power Co. says it is contemplated to spend about \$500,000 for improvements this year, including equipment.

Ark., Fort Smith.—The Fort Smith Light & Traction Co. It is reported, has decided to extend its line to the Arkansas River opposite Van Buren.

Ga., Griffin.—B. R. Blakely of Griffin is quoted as confirming a report that he is interested in a plan to build an electric railway in Griffin and that application will be made for a charter.

Ga., Lagrange.—Franchise is reported granted to Messrs. Akin and Preston of Macon, Ga.; C. M. Awtry and G. E. Dallas of Lagrange for an electric street railway. It must begin operation in 15 months.

La., Shreveport.—The Shreveport Traction Co. has applied for a franchise for an extension to the Fairfield Avenue suburb.

La., Shreveport.—The Shreveport Traction Co. has applied by ordinance to the City Council for a franchise on Fairfield Ave., work to begin within 60 days.

Mo., Hannibal.—The Hannibal Railway & Electric Co. is reported as making announcement that it will build three miles of additional track this year. J. S. Mainland is purchasing agent.

N. C., Asheville.—The Asheville Electric Co. has been granted a franchise to lay a track over the West Asheville bridge, and the contractors for the bridge, C. D. Clark & Co. of Baltimore, will begin construction shortly.

N. C., Wilson.—B. F. Lane of Wilson is reported to have applied to the Board of Aldermen for a franchise to build a street railway on behalf of a syndicate at Norfolk, Va.

Ola., Chickasha.—The Chickasha Street Railway Co. It is reported, will build an electric railway six miles long in Chickasha and Grady county; capital \$150,000; the directors are Charles F. Woodward and W. Raymond Emerson, both of Wakefield, Mass.; Lawrence Martin, R. D. Welborne and W. T. Weston of Chickasha, Okla.

Tex., Dallas.—The Dallas Traction Co. is quoted as saying that it will begin construction within 60 days on its proposed street railway, which will connect the Mount Auburn addition with the Dallas Consolidated Railway; power will be purchased; no incorporation as yet; capital \$25,000; E. L. Lancaster is general manager at 334 Commerce St., Dallas, Tex.

Tex., Del Rio.—The County Commissioners have received two applications for street-car franchises, one of which was granted conditionally, and the power-house is to be erected at Devil River. The secretary of the board can probably give information.

Tex., Fort Worth.—The Northern Texas Traction Co. says a dispatch, will build a line from Polytechnic St. to Handly, six miles. H. T. Edgar is manager.

Tex., Houston.—David Daly, manager of the Houston Electric Co., is reported as saying that \$700,000 will be spent this year for improvements and extensions, which include some double-tracking, the straightening of lines, rebuilding of a trestle and the purchase of equipment.

Tex., San Marcos.—A 20-year street railway franchise has been granted to C. L. Hopkins and associates, work to begin within six months.

Tex., Waco.—The Citizens' Street Railway Co. It is reported, contemplates building new car sheds and shops, besides some extensions.

Va., Norfolk.—An ordinance has been adopted granting a street railway franchise in Colonial Place to the Norfolk & Portsmouth Fraction Co.

W. Va., Beckley.—Ex-Sheriff Davis and associates are reported seeking a franchise for an electric railway in Beckley.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers' Record has received during the week the following particulars as to machinery and supplies wanted.

Air Compressor.—Box 213, Newnan, Ga., wants two-stage air compressor; 100 pounds pressure; 1000 to 1200 cubic feet capacity; second-hand.

Aluminum Novelties.—Thomas Grate Bar Co., Valdosta, Ga., wants to correspond with manufacturers of white-metal or aluminum novelties relative to placing order for grate bars for advertising purposes.

Bank Fixtures.—Eunice State Bank, Eunice, La., will need bank fixtures.

Barrel Machinery.—H. F. Byrd, Winchester, Va., wants equipment for barrel factory.

Barrels.—E. Gouge & Co., 528 Commerce St., Bristol, Va.-Tenn., want prices on barrels.

Boiler.—J. H. McLeary, Suffolk, Va., wants upright boiler, 48 inches by $\frac{1}{2}$ or 9 feet; second-hand preferred; for about $\frac{1}{4}$ direct-connected engine; state location, price, time of delivery, etc.

Bottles.—E. Gouge & Co., 528 Commerce St., Bristol, Va.-Tenn., want prices on bottles.

Brick Mantels.—A. P. Moore, Tyler, Tex., wants catalogues and prices on brick mantels.

Briquettes.—C. H. Jenkins, 203 Security Bldg., Galveston, Tex., wants addresses of manufacturers of briquettes from sawdust.

Broom Machinery.—Butt Bros., Greendale, Va., want broom-making equipment.

Building Materials.—L. P. Summers, Abingdon, Va., wants prices on common brick; gray and red pressed brick; framing (including joists, studs, rafters, bridging, soles and plates); also sheeting; for \$20,000 hotel and store building.

Building Material.—G. W. Hardin, Johnson, City, Tenn., wants prices on bricks, framing and finish lumber, sash and doors for \$35,000 building.

Can Tops.—A. V. Oldham, Room 48 City Hall, Louisville, Ky., wants names of manufacturers of tops for talcum-powder cans.

Carriage Builders' Supplies.—B. B. Norris, 18 Chunamkin Rd., Grant Rd., Bombay, India, wants to correspond with American manufacturers of and dealers in carriage builders' requisites. (See "Leather Cloth.")

Canning Machinery, etc.—Glover-Forsyth Company, 611 Gibbs Bldg., San Antonio, Tex., wants prices on equipment for canning and preserving plant.

Cars.—Clinton Street Railway Co., R. O. Hunt, manager, Clinton, Okla., will want two or three electric cars; new or second-hand.

Cars.—J. S. Shannon, general manager Oak Leaf Coal Co., 625 Woodward Bldg., Birmingham, Ala., wants mining cars of $1\frac{1}{2}$ tons capacity.

Chains, etc.—Kirwan-Robards Supply Co., 109 South Charles St., Baltimore, Md., wants 300 rafting chains, $\frac{1}{2}$ inch by 30 feet; also 300 ring dogs.

Concrete Mixers.—Vernon-Forman Company, Security Trust Co., Bldg., Lexington, Ky., wants prices on concrete mixers.

Contractor's Equipment.—City of Bryan, Tex., wants prices on contractor's equipment. Address The Mayor.

Convict Cage.—Xavier A. Cramer, Magnolia, Miss., wants prices on convict cage mounted on wheels.

Cotton Machinery.—Walter E. Womble, Womble, Ark., wants information on manu-

facture of cotton thread and cloth and prices on necessary machinery.

Cotton-growing Machinery, etc.—Roy G. Lane, Box 244, Chihuahua, Mexico, wants descriptive literature of machines for planting, harvesting and treating cotton.

Crane.—Maddox Foundry & Machine Co., Archer, Fla., wants prices on hand traveling crane.

Creamery Machine.—Boerne Dairy Feed Co., Boerne, Tex., will need creamery machinery.

Crane.—A. V. Kaiser & Co., 739 Drexel Bldg., Philadelphia, Pa., want eight-wheel standard-gauge locomotive crane; capacity, 15 to 20 tons; self-propelled; equipped; ready for work.

Ditch Construction.—Bids will be received at office of Howe & Currier, New Smyrna, Fla., until March 17 for constructing ditch along Spruce Creek; length, 61x and one-half miles; contents, 140,000 cubic yards of earth, mostly sand; plans and specifications may be seen at office of Howe & Currier, New Smyrna, or of engineers, D. D. & C. M. Rogers, Daytona, Fla.

Drainage.—Drainage Commissioners for Moyock Drainage District No. 1, A. B. Lukens, chairman, Moyock, N. C., will open bids March 8 for construction of following ditches: Moyock ditch, three miles in length and requiring 56,854 cubic yards of excavation; Rowland Creek ditch, three miles in length, requiring 87,122 cubic yards of excavation; Guineo Mill ditch, seven miles in length, requiring 198,224 cubic yards of excavation; lateral ditches, designated on map as laterals A, B, C and D, aggregating eight miles in length and requiring 309,353 cubic yards of excavation. Information can be obtained by examining judgment and map on file at Currituck County Courthouse or copies of same in office of secretary of the commission, R. I. Bagley, Moyock; work to begin within 60 days from date of signing contract.

Dredging.—U. S. Engineer Office, Savannah, Ga. Proposals for dredging refractory material in Brunswick Harbor, Georgia, will be received until March 21; information on application: Dan C. Kingman, Colonel, Engineers.

Dry-air Closets.—P. T. Southall, Amelia, Va., wants prices on two dry-air closets for school.

Electric-light and Power Plant.—See "Water-works, etc."

Electrical Equipment.—Dr. V. Simmons, Summit, Miss., wants prices on electrical equipment for lighting and operating machinery, etc.

Electrical Machinery.—Greensboro Supply Co., Greensboro, N. C., in market for 50-kilowatt alternator direct connected to modern engine; 250 to 300-kilowatt direct-connected unit; Flier & Stowell engine, non-condensing preferred; foregoing outfit to be 60 cycles, 3 phase, 230 volts, complete with exciters and rheostats; furnish complete specifications, stating how long in use and actual condition.

Electrical Machinery.—Clinton Street Railway Co., R. O. Hunt, manager, Clinton, Okla., wants prices on rotary converter.

Electrical Machinery.—Hunt's Machine Shop, Somerset, Ky., wants prices on direct-current generator for 20 to 25 16-candle-power lights; also switchboard; second-hand; immediate delivery.

Engines.—Sperry & Lukens, Artesia, New Mexico, want to correspond with manufacturers of engines to use light gravity crude oil.

Elevator.—C. H. Cohron & Son, Stuarts Draft, Va., want prices on elevator for three-story hay and grain warehouse.

Feed-water Heater.—Gurley Light & Power Works Co., Huntsville, Ala., wants new or second-hand closed feed-water heater; about 200 horse-power.

Filtering Plant.—R. H. Staton, Mayor, Hendersonville, N. C., wants prices on filtering plant for water-treatment; proposed expenditure within \$5000.

Finishing Machinery.—Keystone Finishing Mills, Burlington, N. C., in market for hosiery finishing machinery; 2000 dozen pairs daily capacity.

Fire Doors.—Amarillo National Bank, Amarillo, Tex., wants prices on fire doors.

Gasoline Engine.—Alpine Publishing Co., J. D. Jackson, president, Alpine, Tex., wants prices on 3½-horse-power gasoline engine.

Gasoline Engine.—R. L. Antley, Cameron, S. C., wants cuts and prices on 12-horse-power two-cylinder gasoline marine engine with fixtures; for pleasure boat.

Glass.—B. W. Blount, Jacksonville, Fla., wants addresses of manufacturers of glass.

Glass Doors.—W. L. Wheeler, 310 Vaughn

St., Nashville, Tenn., wants prices on art glass doors.

Heating Apparatus.—See "Government and State Buildings" under Ga., Alto.

Heating Furnaces.—Reed Realty Co., 3800 Wabash Ave., Kansas City, Mo., wants prices on hot-air furnaces.

Heating Plant.—V. B. Miller, Dickson, Tenn., wants prices on heating plant for \$8000 25-room hotel.

Heating Plant.—P. T. Southall, Amelia, Va., wants prices on two furnaces and equipment for school.

Heating Plant.—W. L. Wheeler, 310 Vaughn St., Nashville, Tenn., wants prices on hot-air heating plant.

Heating Plant.—Presbyterian Church, J. G. Gold, member of building committee, Gordonsville, Tenn., wants prices on hot-air furnace.

Heating Plant.—G. W. Hardin, Johnson City, Tenn., wants prices on steam-heating plant (steam boilers, radiators, etc.) for \$35,000 building.

Heating Plant.—A. M. E. Zion Publication House, F. K. Bird, manager, 206 South College St., Charlotte, N. C., wants prices on steam-heating outfit.

Heater.—Water and Light Department, Dawson, Ga., wants 250-horse-power heater to heat water for steam boilers. Address W. R. Baldwin, chairman.

Hosiery Finishing.—See "Finishing Machinery."

Hoisting Engine, etc.—Bids will be received at office of General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until March 21 for furnishing hoisting engine, pumps and motors, spiral-riveted pipe and fittings, foot valves, dredging sleeves, revolving-screen sections for rock crusher, etc. Blanks and general information relating to circular No. 564 may be obtained at above office or office of assistant purchasing agents, 24 State St., New York; 55 National Realty Building, New Orleans; 1086 North Point St., San Francisco, Cal.; also from U. S. Engineer offices in following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Philadelphia, Pittsburg, Boston, Buffalo, Cleveland, Cincinnati, St. Paul, Detroit, Milwaukee, Chicago, St. Louis, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City; Chamber of Commerce, Quincy, Ill., and Chamber of Commerce and Board of Trade, Tacoma, Wash.; F. C. Boggs, Captain, Corps of Engineers, U. S. A., General Purchasing Officer.

Holisting Platform.—M. E. Dye, Gloster, Miss., wants prices on one double platform for holisting brick and mortar; delivery Brookhaven, Miss.

Ice Machinery.—Boerne Dairy Feed Co., Boerne, Tex., will need ice machinery.

Ice Machinery.—Southern Stock & Farming Co., Brevard, N. C., wants to correspond with manufacturers or dealers in ice plants of one ton or less capacity.

Iron Hubs.—Dezell Enterprise Co., Greensboro, Fla., wants to correspond with manufacturers of cast-iron hubs used in wheelbarrow wheels having wooden spokes.

Iron.—J. S. Shannon, general manager Oak Leaf Coal Co., 625 Woodward Bldg., Birmingham, Ala., wants span of 50-foot truss iron.

Knife Grinder.—Mobile Column Co., Mobile, Ala., wants automatic knife grinder.

Leather Cloth.—B. B. Norris, 18 Chunamkin Rd., Grant Rd., Bombay, India, wants to correspond with American leather-cloth manufacturers. (See "Carriage Builders' Supplies.")

Lighting Fixtures.—Reed Realty Co., 3800 Wabash Ave., Kansas City, Mo., wants prices on gas fixtures.

Levee Work.—Mississippi River Commission, First and Second Districts, U. S. Engineer Office, Custom-house, Memphis, Tenn. Proposals for levee work in White River levee district will be received March 18; information on application; M. L. Walker, Major, Engineers.

Locomotive.—J. H. McCleary, Suffolk, Va., wants standard-gauge locomotive; about 35 tons weight; six drivers; 16-inch cylinders; give specifications, price, location, etc.

Locomotive.—Southern Equipment Co., 19 Young St., Houston, Tex., wants prices (for client) on standard-gauge locomotive capable of hauling four heavily-loaded cars on 3 per cent. grade; to be purchased on contract or trust certificate plan.

Lumber.—W. A. Prather, 266 Walton St., Memphis, Tenn., wants 75,000 to 100,000 feet 2½x12 and 14 inch 16 to 26 feet long-leaf yellow pine, f. o. b. cars Osceola, Ark.

Macadam.—Valley Turnpike Co., H. F. Byrd, president, Winchester, Va., wants binding macadam for loose rock.

Machine Tools.—George Guild, Houston, Tex., wants prices on plain second-hand heavy boring and turning mill, to swing not less than 12 feet; also on 1200 to 1500-pound steam hammer.

Machine Tools.—American Iron Works, Geo. Guild, manager, Houston, Tex., wants prices on lathes, planers, milling machines, radial drills, Dallett portable drills, shaper and toolroom equipment.

Metal.—See "Non-corrodible Metal."

Metal.—See "Aluminum Novelties."

Metal Window Fixtures.—M. E. Dye, Gloster, Miss., wants prices on 4 metal window frames, 12 lights 12x18; 4 pair sash, 12 lights 12x18, metal framed and wire glass; 2 metal frames, 2 lights 42x36; 2 pair sash, 2 lights 42x36, metal framed and wire glass; 20 metal window frames, 2 lights 32x40; 20 pair sash, 2 lights 32x40, metal framed and wire glass; 10 metal window frames, 3 lights 18x32; 10 pair sash, 3 lights 18x32, metal framed and wire glass; all sash to be pivoted; delivery Brookhaven, Miss.

Non-corrodible Metal.—Geo. H. Hart, Box 599, Greenville, S. C., wants metal for ink-well manufacture; metal to be proof against corrosion by ink acid.

Oiling Boxes.—Maddox Foundry & Machine Co., Archer, Fla., wants prices on ring oiling boxes.

Paper-box Machinery.—Keystone Hosiery Mills, Burlington, N. C., in market for paper-box machinery; 2000 daily capacity.

Pattern Shop Machinery.—Maddox Foundry & Machine Co., Archer, Fla., wants prices on pattern shop machinery.

Paving.—Mayor and Board of Aldermen, Leesville, La., will open bids March 8 for construction of 30,000 square feet of concrete sidewalk and curb; specifications on file in office of Mayor; J. B. Sterns, City Engineer.

Paving.—C. G. Welch, Mayor, Clinton, Okla., will receive bids until March 15 for construction of 2480 linear feet of concrete curb, 15,230 square feet of concrete gutter, 24,505 square yards vitrified block paving with five-inch concrete base and asphalt filler, and excavating 5880 cubic yards of earth; bids to be accompanied by certified check for 5 per cent. of bid, payable to City Treasurer; plans and specifications on file with and proposal blanks may be obtained from C. C. Smith, City Clerk, or J. L. O'Hearn of Clinton, consulting civil engineer; plans and specifications will be furnished on receipt of cash deposit of \$5.

Peanut-product Machinery, etc.—Haskell Board of Trade, J. E. Poole, secretary, Haskell, Tex., wants information on manufacture of peanut oil and butter, and prices on machinery.

Photographic Machinery.—Tegler, Tiffany & Co., 406 Conroy Bldg., San Antonio, Tex., want addresses of "camerograph" and "retiograph" companies manufacturing machines to photograph abstract records.

Plumbing.—See "Government and State Buildings" under Ga., Alto.

Plumbing.—G. W. Hardin, Johnson City, Tenn., wants prices on plumbing for \$35,000 building.

Pulleys.—Maddox Foundry & Machine Co., Archer, Fla., wants prices on pulleys.

Pulverizing Mills.—Carolina Garage & Machine Co., 109 West Hargett St., Raleigh, N. C., wants names of manufacturers of small pulverizing mills to grind fertilizer by hand-power.

Pump.—Mobile Column Co., Mobile, Ala., wants fire pump.

Pump.—Curley Light & Power Works Co., Huntsville, Ala., wants deep-well steam pump; to lift 500 or 600 gallons of water per hour 100 feet; new or second-hand.

Pumps.—E. Gouge & Co., 528 Commerce St., Bristol, Va., want prices on pumps.

Pumping Station.—Dr. V. Simmons, Summitt, Miss., wants prices on pumping station.

Rails.—J. S. Shannon, general manager Oak Leaf Coal Co., 625 Woodward Bldg., Birmingham, Ala., wants two miles 60-pound relay rails; also some 24-pound mining rail.

Rails, etc.—Southern Equipment Co., 19 Young St., Houston, Tex., wants prices (for client) on eight miles 50-pound relaying rails, with frogs and switches; to be bought on contract or trust certificate plan.

Road Construction.—Highways Commission of Baltimore County, E. Stanton Bosley, secretary, Towson, Md., will open bids March 10 for grading and macadamizing three-quarters of mile of Falls road between Broadway and Beaver Dam bridge; proposals to be made on forms furnished by State Geological Survey Commission, to be obtained through its office in Baltimore, Md.; certified check, \$300.

Road Machinery.—Xavier A. Cramer, Mag-

nolia, Miss., wants prices on road machinery.

Rolling Partitions.—W. L. Wheeler, 310 Vaughn St., Nashville, Tenn., wants prices on rolling partitions.

Roofing.—Maddox Foundry & Machine Co., Archer, Fla., wants prices on roofing for shops.

Roofing.—J. H. Gatton, Alexandria, Tenn., wants prices on \$800 church.

Safe, etc.—First Guarantee State Bank, R. P. Christian, president, Silver Valley, Tex., wants prices on safe, vault and bank fixtures.

Safe, etc.—First National Bank, W. H. Ballard, vice-president, Peterstown, Va., will buy burglar-proof money safe and fireproof safe for books, etc.; also bank fixtures.

Safe, etc.—G. Ogden Persons, Forsyth, Ga., wants prices on safe and bank fixtures.

Safes, etc.—G. W. Layman, secretary People's Exchange Bank, Troutville, Va., wants prices on safe and bank fixtures.

Seating.—J. H. Gatton, Alexandria, Tenn., wants prices on seats for \$800 church.

Seating.—Presbyterian Church, Rev. John T. Price, pastor, Cookeville, Tenn., will want seats.

Seating.—W. L. Wheeler, 310 Vaughn St., Nashville, Tenn., wants prices on pews and furnishings.

Sewer Construction.—Board of Commissioners, Columbia, S. C., will receive bids until February 28 for construction of reinforced-concrete storm sewer on College St. between Main and Assembly Sts., distance of 412.7 feet, in accordance with plans prepared by City Engineer and on file in his office; bids to be accompanied with certified check for \$100, payable without recourse to G. F. Cooper, City Treasurer.

Sewer Construction.—Baltimore (Md.) Board of Awards will receive bids at office of J. Sewell Thomas, City Register, City Hall, until March 2 for constructing under-water discharge conduits, contract No. 47, and storm-water drains, contract No. 9; charge of \$5 will be made for each specification and blueprints; certified checks for \$2500 and \$3500, respectively. Approximate quantities required for contract No. 47—6125 linear feet wooden piles; 5030 linear feet 60-inch-diameter wood-stave pipe; 5000 pounds one-inch-diameter galvanized steel conduit stirrups, etc.; contract No. 9—1235 linear feet 72-inch, 1910 linear feet 69-inch, 2281 linear feet 24-inch, 1670 linear feet 20-inch circular drains; 3372 linear feet inlet, connections, etc. Specifications and plans may be obtained upon application at office of Sewerage Commission, Calvin W. Hendrick, chief engineer, 904 American Bldg.

Sewer Construction.—See "Water-works, etc."

Sewer Construction, etc.—City of Dothan, Ala., invites bids on constructing 680 feet of 60-inch, 395 feet of 42-inch and 360 feet of 36-inch concrete storm sewers; also 12,500 feet of sanitary sewers from 6 to 12 inches in diameter, and 3900 feet of cast-iron water mains from 8 to 4 inches in diameter. Plans and specifications may be seen at office of City Clerk R. W. Lisenby; Joe Baker, Mayor. Sewage-pumping Equipment.—Bids will be received at office of City Clerk, Portsmouth, Va., until March 4 for furnishing and erecting, including foundations and all connections, etc., complete, ready for operating, mechanical equipment and stack for operating sewage ejectors, consisting of two air compressors of cross-compound steam, Meyer cut-off, duplex air type, with mechanically moved suction valves operating non-condensing, each compressor to be capable of displacement of 1400 cubic feet per minute operating at rotative speed of not exceeding 115 revolutions per minute; two boilers of 125 horse-power each, arranged to be set in one battery, so that either boiler can be independently operated; boilers to be provided with all necessary valves, gauges, breechings and connections to smoke flue; two boiler-feed pumps, each of sufficient capacity to supply boiler; one feed-water heater and purifier of sufficient capacity to supply boilers; one complete perforated radial brick chimney to take care of two boilers of 125 horse-power each. Specifications and other information may be obtained of City Engineer, V. O. Cassell, Jr.; each bid to be accompanied by certified check, payable to order of Henry L. Hudgins, City Treasurer, in sum of 5 per cent. of bid; A. August Billingsly, chairman sewerage committee.

Sewer Construction.—C. G. Welch, Mayor, Clinton, Okla., will open bids March 15 for construction of 1200 feet of 18-inch, 4970 feet of 15-inch, 1520 feet of 12-inch, 10,900 feet of 10-inch and 7000 feet of 8-inch sewers of first-story pipe, together with manholes and other appurtenances; bids to be accompanied by certified check for 5 per cent. of bid, payable to City Clerk, Portsmouth, Va.

Shoe.—Bensussan, Sides & Co., Salonica, Turkey, want 100 kilos of leather shoes; quote cost in francs, shipped at New York and delivered c. l. f. Salonica.

Shears, etc.—John W. Honeycutt, Gold Hill, N. C., wants addresses of manufacturers of or dealers in shears and patent tension device used on self-sharpening shears.

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INDUSTRIAL NEWS OF INTEREST

Remove Their Offices.

Announcement is made that John Galt & Sons, Inc., miners and wholesale dealers in all kinds of roofing slates, have removed their offices from 253 Broadway to 1133 Broadway, New York.

Executes Well-Drilling Contract.

Among the well-drilling contracts recently executed by the Hughes Specialty Well Drilling Co., Charleston, S. C., was the drilling of a well for the cold-storage plant of T. W. Carroll at Seven-Mile Junction, Charleston, S. C. This is a six-inch well, 450 feet deep, and affords a supply of from 150 to 200 gallons per minute.

Orders for Electrical Equipment.

Important orders recently received by the Carolina Electrical Co., 110 Fayetteville St., Raleigh, N. C., include one for electrical equipment, fixtures, etc., for the new infirmary and annex for the State Normal College at Greensboro, N. C., and one for the electrical equipment for the Pythian Orphanage at Clayton, N. C.

Atlantic Bitulithic Co. News.

The Atlantic Bitulithic Co., Mutual Bldg., Richmond, Va., announces that F. Dawkins, its Charleston (W. Va.) superintendent, will locate at Goldsboro, N. C., in order to give attention to important and large contracts which the company has secured from that city. Mr. Dawkins will be at Goldsboro for some months.

Hardwood Plant Seeks Location.

An established hardwood manufacturing company, in existence for 30 years, is seeking another location. It desires to locate in an advantageous section where timber can be secured and where local investors will subscribe to stock in the company. Correspondence addressed to Box 466, Hagerstown, Md., will receive attention.

General Office in New York.

The Prairie Pebble Phosphate Co. of Savannah, Ga., announces that on February 26, 1910, its general office will be moved to 165 Broadway, New York. Joseph Bull, president, will have supervision of the company's plants and sales, with offices in Savannah, Ga., while A. B. Bull, second vice-president, will also remain in Savannah in connection with the sales department.

National Iron & Steel Co.

J. H. Cohn announces that he has established the National Iron & Steel Co., which absorbs the Houston Railway & Mill Supply Co., and has its main offices at 330 Chronicle Bldg., Houston, Tex. The company will deal in new and second-hand rails, railway equipment, iron and steel (finished product and old material), etc. J. M. West is president, J. H. Cohn vice-president and general manager and J. R. Cohn secretary-treasurer.

Establishes New Offices.

The General Fireproofing Co., Youngstown, Ohio, announces that it has established new offices at 366-398 Broadway, New York, where a large showroom has been prepared for the display of a complete line of "Allsteel" furniture as manufactured by this company. Its Philadelphia office has been removed from 1341 Arch St. to 321 Land Title Bldg., Philadelphia, Pa., this change having been necessary because of a large increase in trade, demanding a more central location.

The Canton Supply Co.

The Canton Supply Co. of Canton, N. C., announces that it has established offices at Canton for the purpose of handling a full line of mill, mining, power, woodworking and other machinery and supplies. It has also established an engineering department which will devote its attention to the installation of all kinds of power and heating plants, road machinery, etc. Its officers are M. Buchanan, president; George W. Bryson, manager, and George C. Wyland, sales manager. Mr. Bryson is the buyer.

Dodge & Day Installations.

A recent commission executed by Dodge & Day, engineers, Philadelphia, Pa., provided for the installation of complete water-works and electric-light systems for the town of Berlin, Md. This work consisted of a survey, followed by a report to the Mayor and Council, which included recommendations as to the extent to which pole and pipe lines would be justifiable. The report was approved and Dodge & Day directed to make complete specifications and drawings, outlining and dividing the work into its various divisions. Contracts were then awarded,

granting them supervision of the work as it progressed.

Engineers for Water-Works.

Among Southern engineering firms which have recently organized is that of Beale & Meigs, Washington Loan & Trust Bldg., 9th and F Sts., Washington, D. C. This firm is composed of Carroll Beale, C.E.; W. A. McFarland, M.E., and Orton L. Meigs, M.E., and will make a specialty of designing and superintending the installation of water-works, while giving attention also to power plants and mill construction. Each member has had a number of years' experience in his profession, Mr. McFarland designing and constructing the water-works system for the city of Washington, D. C.

Knitting Plant at Auction.

Parties interested in the purchase of a Southern knitting plant are directed to the announcement that the Greenville Knitting Mills at Greenville, N. C., will be sold at public auction on March 16, 1910. This plant embraces four acres of land, large brick building, water-works, electric-light plant, engine and boilers, 12 knitting machines, 20 sewing machines, winding machines, two napping machines, bleaching plant and fan and other equipment. Details will be furnished by F. G. James, receiver, Greenville, N. C.

Instruction in Business Methods.

One of the specialties of the educational world is instruction in modern business methods. This has been undertaken because it has been found desirable that young men and women obtain a knowledge of accounting, arithmetic, correspondence, etc., before they obtain positions with manufacturing, mercantile, financial and other institutions. This knowledge makes them better fitted for prompt advancement and is obtained in business colleges, of which there are many throughout the country. Prominent among them is the Eaton & Burnett Business College, at 9-11 West Baltimore St., Baltimore, which institution has been in existence many years and has earned a reputation for its thorough instruction in general, corporation and voucher bookkeeping, penmanship, shorthand, arithmetic, correspondence, type-writing, etc.

A Center-Crank Engine.

The Greensboro Boiler & Machine Co., Greensboro, N. C., is meeting with much success in the sale of its center-crank engines, which it has recently put on the market. These engines are equipped with practical balance valve, designed in such a way that the valve is said to have about one-half the pressure of the usual engine. The company manufactures nine sizes of these engines, and is agent for the sale of the products of the Wm. A. Harris Steam Engine Co., manufacturer of Corliss engines of various types. It keeps on hand a variety of engines for electric lighting and other purposes where high speed is required, and also sells the Skinner automatic engines for these services.

It also furnishes and installs, if necessary, electric-light plants and similar equipment for factories, hotels, summer resorts, etc., and handles ironworking machinery, lath mills, wood splitters, and makes a specialty of sawmill plants.

Gulf Refining Co.'s Shipments.

Shipments of crude oil and refinery products from Port Arthur, Tex., during January amounted to 165,972 barrels of the former and 714,042 barrels of the latter. These shipments were handled in barrels of 42-gallon capacity, and were made principally by the Gulf Refining Co., general sales office, Frick Bldg. Annex, Pittsburgh, Pa. The ports of destination included Tampa, Galveston, London, Bayonne, La. Gretna, Jacksonville, Manchester, Eng., Baltimore and Port Tampa. In addition to the shipments enumerated the Gulf Refining Co. also shipped 2279 barrels of asphalt during the month. The Gulf Refining Co. refines Oklahoma and Texas petroleum and produces engine gasoline, kerosene, gas oil, painters' naphtha, stove gasoline, fuel oil, paving and roofing asphalt, lubricating oils, etc. It also makes a specialty of heavy oils of asphaltum base for oiling roads. Its district sales offices are located in New York city; New Orleans, La.; Philadelphia, Pa.; Houston, Tex.; Atlanta, Ga.; Boston, Mass., and Tampa, Fla.

The Vilter Corliss Engines.

Attesting the value and satisfactory service rendered by the Corliss engines manufactured by the Vilter Manufacturing Co., Milwaukee, Wis., are numerous testimonials which this company has received from users

of its engines. Among these is a letter from the George E. Martin Leather Co., 535-550 Commerce St., Milwaukee, stating that the 22-inch by 36-inch Corliss engine, direct connected to 300-kilowatt alternating-current generator, bought a year ago has given excellent service, while the design and construction of the engine and governor are subjects of congratulation. The company has also received a letter from the A. George Schulte Company of Milwaukee, Wis., expressing its satisfaction with the Corliss engine it bought several years ago. This engine has been in steady operation since it was installed, running at a speed of 110 revolutions per minute. A letter from the Herman Zohrman Leather Co. of Milwaukee states that the tandem compound condensing engine which it installed a year ago is operating very economically at 110 revolutions per minute, and the new valve motion is working perfectly. The engine replaced a smaller Corliss engine manufactured by the Vilter Manufacturing Co. which had been operating for 18 years.

Ingersoll-Rand Managers' Meeting.

The annual conference of managers and agents of the Ingersoll-Rand Company was held in New York at the company's shops from February 1 to 5. The meetings were presided over by W. L. Saunders, president. Other executives present were George Doubleday, first vice-president; J. P. Grace, vice-president; Geo. R. Elder, vice-president; W. R. Grace, vice-president and treasurer; F. A. Brainerd, secretary; Henry Lang, director. The sales organization was headed by J. H. Jowett, general manager of sales; the shops were represented by F. W. Parsons, manager of the Painted Post and Athens shops, and Wm. Prellwitz, chief engineer of the Easton and Phillipsburg works. The Easton plant, where are made compressors, stone chiselers, hammer drills, core drills and pneumatic tools, and the Phillipsburg works, where the rock drills, electric-air drills, coal cutters and large compressors are produced, were visited. A special train conveyed the party to the Painted Post shop, where Thursday was given to an exhibit of the compressors, rock drills, hammer drills, pneumatic tools and pneumatic hoists produced at this plant and at the Athens shops. Among the foreign representatives present were Conrad Bollinger, from the London office; F. A. Shoffel, Paris manager; Nicholas Romeo, Milan, Italy; Victor M. Braschi and Juan Cuyns, from Mexico City, and E. W. Gilman of Montreal, vice-president Canadian Rand Company, Ltd. The domestic offices, branches and agents were also represented.

TRADE LITERATURE.

The Phoenix for February.

Among the journals devoted to belt engineering is the *Phoenix*, which is published monthly by the New York Leather Belting Co. at 51 Beekman St., New York. This publication has been issued for February, and contains a number of interesting and instructive articles.

The Concrete Review.

The *Concrete Review*, a publication issued by the Association of American Portland Cement Manufacturers, Land Title Bldg., Philadelphia, Pa., is now being distributed. It contains a progress report of the committee on technical research, dealing with the action of oil on concrete and the effect of varying temperatures on the hardening of concrete.

Graphite for February.

Issued in the interest of Dixon's graphite production and for the purpose of establishing a better understanding regarding the different forms of graphite and their respective uses is a publication entitled *Graphite*. It is being distributed by the Joseph Dixon Crucible Co., Jersey City, N. J., and contains a number of interesting articles and other information.

The Trump Engines and Boilers.

In addition to its turbine water-wheel and other equipment for the development of pure water the Trump Manufacturing Co., Springfield, O., manufactures engines and boilers for various services, such as are used in sawmills, laundries, etc. Several of these products are illustrated and described, together with their fittings and fixtures, on a folder which the company is distributing.

Mineral Oil Mixed Concrete.

A pamphlet which is being distributed by the Vulcanite Portland Cement Co., Land Title Bldg., Philadelphia, Pa., and Fifth Avenue Bldg., New York, contains an interesting article on the "Uses of Mineral Oil Mixed Concrete," by Albert Moyer, Associate

of the American Society of Civil Engineers. The pamphlet also presents a list of important reinforced concrete structures in which Vulcanite Portland cement was employed.

The Indicator for January.

The *Indicator*, a publication in the interest of the Otis Elevator Co. of New York and other cities, has been issued for January. The magazine is pleasingly illustrated and among other features contains an article on the Alaska-Yukon-Pacific Exposition, a reference to and photograph of the Hotel Patten, Chattanooga, together with information regarding dumbwaiters and a list of important installations of Otis elevators.

Directory of India, Burma and Ceylon

K. R. Khosla & Bros., Lahore, India, have issued an advance statement regarding their 1910 edition of Khosla's directory. They state that the publication will be issued in March and that it has undergone many changes at a very heavy expense. The new edition will contain late addresses properly classified in all towns, full description of the town and its trade, and necessary information for commercial firms. Its price will be 24 shillings, postage included, the publishers agreeing to refund money in cases of dissatisfaction.

Parker Hot Galvanized Corner Beads.

In a pamphlet recently issued by the manufacturer of Parker hot galvanized corner beads for the protection of plastered corners several reasons are advanced why this product should be specified by contractors and others interested in the use of these appliances. It is claimed that the Parker steel corner beading, being hot galvanized, will not rust, and because of its shape a perfect bond for the plaster is assured. This product is manufactured by the Sharon Steel Hoop Co., Commercial National Bank Bldg., Chicago, Ill., and is illustrated and described in the pamphlet referred to.

Buffalo Railroad Track Scales.

Among important subjects to consider in the purchase of railroad track scales are strength of construction, durability and accuracy. Railroads, it is said, are using heavier rolling stock every year, making it important that track scales should be so constructed as to anticipate the increased strain. A railroad track scale which is claimed to possess the features enumerated and to fill all other reasonable requirements is the Buffalo track scale. This product is manufactured by the Buffalo Scale Co., Buffalo, N. Y., and is illustrated and described on a mailing card which the company is distributing.

Keays Cable Grip.

A booklet issued by the Keays Cable Grip Co., 95 Liberty St., New York, illustrates and describes the Keays cable grip for use on industrial cable railways for mines, tunnels, coal-handling plants and general construction work. This device has been developed to meet the demand for a reliable and efficient means for handling industrial cars on the cable-haulage system, the general arrangement consisting of a light railroad on which the cars are moved by being gripped to an endless wire rope traveling on rollers or "idle" between the rails and passing around the drums of a haulage engine located in any convenient position near the track.

"Capnal" Weatherproofing Nails.

Where cost is the consideration as compared with other nails, it is said that "Capnal" nails are more expensive than others, as the manufacturer of this product does not claim to sell them at the same price per pound as the ordinary flat-head roofing nail, but states that "Capnal" nails cost less per foot of roofing than other nails. These nails are manufactured by the Weatherproofing Nail Co., 451 North St., Baltimore, Md., and are used on all grades of roofing paper, ready-to-lay roofing, asbestos, felt, etc. They are claimed to be easy to drive, cannot tear or injure the paper, preserve the weatherproofing, save labor and possess other economic features. They are illustrated and described in a folder which the company is distributing.

Terry Core Drills.

In presenting its catalogue of Terry core drills the manufacturer of these products calls particular attention to their many novel features, which should appeal to engineers and practical drill operators. It is claimed that these drills are especially designed to withstand the more or less rough treatment to which all portable machines are subjected in the field, and combine simplicity and ease of operation with great durability.

MANUFACTURERS' RECORD.

[February 24, 1910.]

The materials which enter into their construction are said to be the best obtainable for the various requirements, and they are so designed that either diamond or shot tools may be employed. These drills are manufactured by the Terry Core Drill Co., main office, 50 Church St., New York, and are adapted to prospecting, testing, blasting, etc.

Stevens Rifles and Telescopes.

At the fifth annual tournament of the Indoor .22-caliber Rifle League of the United States at Pittsburgh, Pa., February 7 to 12, inclusive, it is stated that Stevens rifles and telescopes won three of the four scheduled events. Of the 25 marksmen competing 15 used Stevens rifles and 16 were equipped with Stevens telescopes. In the championship match Curtis Liston of Uniontown, Pa., won, shooting a Stevens rifle equipped with a Stevens telescope. The bull's-eye match was won by Jesse Smith of Columbus, Ohio, with a Stevens rifle; the special bull's-eye match was won by Curtis Liston with a Stevens rifle and telescope, while in the continuous prize match Stevens rifles and telescopes won third and tied for second and fourth places. These rifles and telescopes are manufactured by the J. Stevens Arms & Tool Co., Chicopee Falls, Mass., and are illustrated and described in Stevens firearm and telescope catalogues.

Electric Hoists, Trolleys and Cranes.

Some loads require to be moved vertically, which implies hoisting, while others require to be moved horizontally, implying trolleying. Many require to be moved both vertically and horizontally, and this implies a combination of hoist and trolley, the latter running on a crane or track. A folder which has recently been issued by the Yale & Towne Manufacturing Co., general offices, 9 Murray street, New York, deals briefly with chain blocks and electric hoists for lifting, and with trolleys, overhead rail and light cranes for horizontal transfer. This company manufactures three types of chain blocks—the triplex, duplex and differential—all of which sustain the load automatically, while in the triplex block it is claimed that friction is reduced by using a sustaining mechanism separate from the hoisting gear.

Vilter Manufacturing Co.'s Catalogue

In a catalogue which it has recently issued the Vilter Manufacturing Co., Milwaukee, Wis., presents a number of illustrations showing the general design and construction of its Corliss engines, together with comprehensive data regarding their adaptability and efficiency. It has been the endeavor of this company to meet the growing demands of power users, to furnish an engine which is simple, durable and efficient, and with this object in view it has equipped its plant with modern tools and facilities and has given close and careful study of all mechanical details which enter into the construction of its products. In addition to the manufacture of high-pressure and condensing simple and compound horizontal Corliss engines, it also constructs complete power plants, refrigerating and ice-making machinery, brewers' machinery and bottling equipment.

FINANCIAL NEWS

The MANUFACTURERS' RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Review of the Baltimore Market.

Office MANUFACTURERS' RECORD,

Baltimore, Md., February 23.

The Baltimore stock market has been quiet during the past week. In the trading United Railways common sold from 13 1/4 to 14; do, trust certificates, 13 1/2 to 14 1/2; do, incomes, 59 1/2 to 61 1/2, last sale at 60 1/2; do, funding 5s, 83 to 83 1/4; do, do, scrip, 83 1/2 to 84; do, 4s, 86 1/2 to 86 1/2; United Light & Power 4 1/2s, 92; Consolidated Gas, Electric Light & Power common, 50; do, preferred, 85; do, 4 1/2s, 81 1/2; Consolidated Gas 6s, 100 1/4 to 100 1/2; Seaboard Air Line common, 21 1/2; Seaboard Company common, 24 1/2 to 25 1/2; do, second preferred 45 to 46; Seaboard 4s, stamped, 82 1/2 to 83 1/2; do, three-year 5s, 99 to 99 1/4; Consolidated Cotton Duck common, 5 1/2; Mt. Vernon-Woodberry Cotton Duck 5s, 74 to 72; G.-B.-S. Brewing 1sts, 42.

Bank stock sold as follows: Farmers and Merchants', 47 1/2%; Bank of Commerce,

30 1/4; Mechanics', 28; Citizens', 39 to 38 1/2; Merchants', 170 to 180; Western, 37.

International Trust sold from 151 to 152; Maryland Casualty from 95 to 94; Colonial Trust, 27; United Surety, 125; American Bonding, 77; Fidelity & Deposit, 152 1/2.

Other securities were traded in thus: Alabama Consolidated Coal & Iron preferred, 60; Georgia Pacific 1sts, 114 1/2; Georgia, Carolina & Northern 5s, 104 1/2 to 105; Virginia Midland 2d, 101 1/4 to 101 1/2; Atlantic Coast Line 4s, certificates, 100 to 100%; do, convertible debenture 4s, 99 to 100; do, Connecticut stock, 252 to 250; do, do, warrants, 152 1/2 to 150; do, do, do, fractions, 152 to 170; do, do, 5-20s, 93 to 91 1/2; do, Consolidated 4s, 96 1/2; Baltimore City 4s, 105 1/2, 104 1/2; do, 3 1/2s, 1980, 92%; do, do, 1940, 96; do, do, 1928, 96; Northern Central Railway stock, 124 1/4 to 125; Atlantic & Gulf Portland Cement, 15; Anacostia & Potomac 5s, 102 1/2; Augusta Railway & Electric 5s, 101 1/4; Detroit United 4 1/2s, 82 to 81 1/2; Georgia & Alabama Consolidated 5s, 104; City & Suburban 5s, Baltimore, 107; Houston Oil common, 7 1/2 to 7 1/2; do, preferred, 38 1/2 to 39; Knoxville Traction 5s, 105; Fairmont & Clarksburg Traction 5s, 96; George's Creek Coal & Iron, 122 1/4; Norfolk Railway & Light stock, 22 1/4; Raleigh & Augusta 6s, 118; Baltimore Electric 5s, stamped, 90% to 91; Carolina Central 4s, 91 1/2 to 91 1/4; Maryland Electric 5s, 98 1/2 to 98 1/2; Georgia Pacific 1sts, 114 1/4; Atlanta Consolidated Street Railway 5s, 105, 105; City & Suburban (Washington) 5s, 104; Virginia Century, 89 1/2.

SECURITIES AT BALTIMORE.**Last Quotations for the Week Ended February 23, 1910.****Railroad Stocks.** Par. Bid. Asked.

Atlanta & Charlotte.....	100	88
Atlantic Coast Line.....	100	128 1/2
Atlantic Coast of Conn.	100	248 1/2
Fairmont & Clarks. Trac. Com.	29	26
Georgia Sou. & Fla.	100	29 1/2
Georgia Sou. & Fla. 1st Pfd.	100	97
Georgia Sou. & Fla. 2d Pfd.	100	75
Seaboard Company Common....	100	24 1/2
Seaboard Company 1st Pfd.	100	73
Seaboard Company 2d Pfd.	100	45 1/2
United Ry. & Elec. Co.	50	13 1/4

Bank Stocks.

Citizens' National Bank.....	10	38
Com. & Fur. White Cfts.	100	77 1/2
Drovers & Mech. Nat. Bank....	100	221
Farmers & Mfr. Nat. Bank....	40	47 1/2
Merchants' National Bank....	100	178
National Bank of Baltimore....	100	121
National Bank of Commerce....	15	30 1/4
National Exchange Bank....	100	155
National Union Bank of Md.	100	121
Western National Bank....	20	36 1/2

**Trust, Fidelity and Cash-
alit Stock.**

American Bonding Co.	25	77
Baltimore Trust & Guarantee.	100	318
Colonial Trust.....	50	27
Continental Trust.....	100	210
Fidelity & Deposit.....	50	153
Fidelity Trust.....	100	210
International Trust.....	100	151 1/2
Maryland Casualty.....	25	94
Mercantile Trust & Deposit.	50	140
U. S. Fidelity & Guaranty.	100	135
United Surety.....	100	125

Miscellaneous Stocks.

Ala. Con. Coal & Iron Pfd.	100	60
Conn. Cotton Duck Common....	50	4
Conn. Cotton Duck Pfd.	50	20 1/2
Conn. Gas. Elec. Lt. & P. Com.	100	49
Conn. Gas. Elec. Lt. & P. Pfd.	100	85 1/2
Consolidation Coal.	100	108
Georgia Creek Coal.	100	121
Richland & West'n Car. 5s.	100	107 1/2
Charleston & West'n Car. 5s.	100	106 1/2
Conn. & Coke Railroad 5s.	95	101
Col. & Green. Inst. 6s.	100	191
Conn. Coast Line 1st 4s.	96 1/4	97
Conn. Coast Line 4s.	100	100 1/2
Conn. Coast Line 4s. Cfts.	50	91
Conn. Coast Line (Conn.) 5s.	100	106
Conn. Coast Line (S. C.) 4s.	90	97 1/2
Conn. Coast Line (S. C.) 4s. 1948.	90	97 1/2
Balto. & Annapolis 8. L.	94	94
Balto. & Harrisburg Ext. 5s.	100	104
Carolina Central 4s.	92	92
Charleston & West'n Car. 5s.	100	106 1/2
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Balto. & Annapolis		

Established 1835.

The Merchants National Bank

South and Water Sts., BALTIMORE, MD.
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 WM. INGLE, Vice-Prest. and Cashier.
 J. C. WANDS, Asst. Cashier.
 JOHN B. DUNN, Asst. Cashier.
 Capital, \$1,500,000
 Surplus and Profits, \$900,000
 Deposits, \$12,000,000

Accounts of Banks, Bankers, Corporations and Individuals solicited. We invite correspondence.

JOHN NUVEEN & CO.

1st Nat. Bank Bldg., CHICAGO

We purchase SCHOOL, COUNTY and MUNICIPAL BONDS. Southern Municipal Bonds a Specialty.
 Write us if you have bonds for sale.

THE FIRST NATIONAL BANK OF KEY WEST, FLA.

United States Depository and Disbursing Agent.
 Capital, \$100,000
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 A general banking business transacted.
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The Delaware Corporation Law is Broad, Liberal, Safe and Stable. Granting and annual taxes low.

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 With assets of nine million dollars, offers just the additional facilities required.

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CROSS CREEK COAL COMPANY 6% Gold bonds, total issue \$250,000. All have been disposed of to investors and bankers in different parts of the country, including Saco, Maine; Boston, Mass.; Rochester, N. Y.; Westfield, Olen, Fredonia and Buffalo, N. Y.; Franklin, Connersport, Pittsburg, Smithport, Shamokin and Port Allegany, Pa.; Columbus, Dayton and Springfield, Ohio; Northfork, Welch and Bluefield, W. Va.; Roanoke, Va.; Nashville, Knoxville, Jasper, Chattanooga and South Pittsburg, Tenn.; Atlanta, Ga.; Lowell, Mass.; East Orange, N. J., and Washington, D. C., until now there are but \$30,000 of them left. These bonds are first lien on 7000 acres of the best coal properties in Tennessee, and \$75,000 of this money is being spent on an up-to-date coal works with a capacity of about 1000 tons a day. Particulars will be furnished from the office, 1006 Mutual Life Building, Buffalo, N. Y. P. S.—A bonus of preferred stock will be given with the bonds.

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Auditor and Public Accountant

Room 315 James Building
CHATTANOOGA, TENN.

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Municipal and Corporation
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STRENGTH in ROPE is QUALITY

Recent government tests show

"AMERICAN" PURE MANILA ROPE to be from 10% to 25% stronger than the standards set by the United States Government for manila ropes of various sizes.



"AMERICAN" ROPE is most economical because it gives the longest service and the greatest value for the money invested.

Specify "AMERICAN" on your orders and turn rope expense into rope economy.

WRITE for our booklet "ROPE" with samples and prices.

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MANUFACTURERS' RECORD.

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OF MARYLAND

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 DOUGLAS H. GORDON, President.
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 Interest Allowed on Deposits Subject to Check, and Special Rates Made on Time Deposits. Your Business is Solicited.

Capital and Surplus, \$2,500,000

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186 Market Street**Bank of Richmond**

Capital and Surplus, \$1,500,000

RICHMOND, VA.

JOHN SKELTON WILLIAMS, President.
 FRED'K E. NOLTING, 1st Vice-President.
 T. K. SANDS, 2d Vice-President and Cashier.
 H. A. WILLIAMS, Assistant Cashier.
 L. D. CRENSHAW, Jr., Trust Officer.

In aiding the development of legitimate business enterprises, this bank believes that it performs a required duty, and to this end offers the services of a live, progressive bank, conservatively managed.

SURETY BONDS

Fidelity & Deposit Co.

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Pioneer Surety Co. of the South.
 Becomes Surety on bonds of every description.

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HARRY NICODIMUS, EDWIN WARFIELD,
Sec'y and Treas. Mgrs.

THE BALTIMORE TRUST & GUARANTEE COMPANY

BALTIMORE, MD.

Capital, \$800,000
 Surplus, \$2,100,000

THOS. H. BOWLES, President

Acts as Executor, Administrator, Trustee, Receiver for Firms, Individuals or Corporations.

Receives Deposits subject to Check, and allows Liberal Rates of Interest thereon.

The National Exchange Bank

OF BALTIMORE, MD.

Hopkins Place, German and Liberty Sts.

Capital, \$1,000,000

July 15, 1903, Surplus and Profits, \$671,631.00

OFFICERS:

WALDO NEWCOMER, President.
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 R. VINTON LANDISALE, Cashier.
 WM. J. DELCHER, Asst. Cashier.
 C. G. MORGAN, Asst. Cashier.

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New Orleans Stock Exchange
 New Orleans Cotton Exchange
 New Orleans Board of Trade

MANUFACTURERS' RECORD.

S. Urton, Henry Frank, L. P. Wetherby, John C. Russell and J. R. Blankenbaker.

La., Estherwood.—Reported that Dr. Z. Frances and others are organizing a State bank capitalized at \$10,000.

Md., Baltimore.—The Permanent Building and Loan Association of Baltimore, 213 Courtland St., will begin business immediately with \$50,000 capital. Officers: President, Francis T. Homer; vice-president, Sam W. Pattison; treasurer, Vachel B. Bennett; secretary, Joseph Oliver; directors, Francis T. Homer, Sam W. Pattison, Vachel B. Bennett, Theodore E. Straus, A. Page Boyce, Wm. H. Gahan, Richard M. Blackwell, John Henry Miller, Frank N. Hoen, Charles England and James McEvoy, Jr.

Md., Havre de Grace.—The Havre de Grace Banking & Trust Co. is reported to have filed articles of incorporation; capital \$25,000; incorporators, Murray Vandiver, James H. Fahey, Isaac Hecht, David A. Fisher, Bernard Levy, Joseph C. Parker and Lee H. Hecht.

Md., Curtis Bay.—Official: The Curtis Bay Bank of the Annapolis Banking & Trust Co. began business at Cherry St. and Pennington Ave., Curtis Bay, February 16. William N. Crisp, cashier.

Mo., Lilbourn.—The Bank of Lilbourn is reported chartered with \$20,000 capital; directors, M. M. Craven, John Tawney, C. T. Warring and S. T. Faust.

N. C., Apex.—Official: The People's Bank chartered; authorized capital \$25,000; to begin with \$10,000 paid in; incorporators, Dr. R. N. Stephens, J. R. Norris, W. F. Utley, A. W. Thompson, Dr. A. B. Wilkerson and others. Business is to begin May 1.

N. C., Charlotte.—The Union Loan & Realty Co. is reported chartered by James W. Parr, Morris E. Trotter and James L. DeLaney; authorized capital \$15,000, to commence business with \$5,000 paid in.

N. C., Murphy.—The Commercial and Savings Bank is reported organized with \$30,000 capital; business to begin about April 1.

N. C., Newbern.—Official: The Craven Realty & Investment Co. of Newbern incorporated; authorized capital \$10,000, with \$1,000 paid in. Incorporators: J. S. Claypool, president; Dr. D. F. Kirkpatrick, second vice-president; William Dean, Jr., secretary, and J. F. Patterson, treasurer. Business has begun.

Okla., Muskogee.—A new bank is reported being organized with R. H. Beard president, Webb Land vice-president and Roy Nabors cashier.

Okla., Oklahoma City.—The Title & Guaranty Co. of Texas, capital \$25,000, has been authorized to begin business. F. B. French is manager.

Okla., Packington.—Reported that a new bank is to be organized by Browning Bros. of Mill Creek, Okla.

Okla., Sapulpa.—Official: The Sapulpa State Bank is to be chartered with \$60,000 capital. Business is to begin about May 1 with H. A. McCauley, president, Webbers Falls, Okla.; I. K. Berry, vice-president, and H. F. Mitchell, cashier, Sapulpa, Okla.

Okla., Tulsa.—Official: The Exchange National Bank of Tulsa chartered; capital \$150,000; surplus \$50,000; business began February 9, with P. J. White, president; O. F. Connolly and H. F. Sinclair, vice-presidents; M. Hughes, cashier, and A. T. Allison, assistant cashier.

S. C., Greenwood.—Official: The People's Bank has organized with directors thus: B. F. McKellar, Jr., president; W. G. Calhoun, vice-president; O. D. Duckett, cashier, and C. E. Klugh, assistant cashier; A. C. Stockman, Geo. N. Taylor, E. Z. Seymour, Peter McKellar and T. J. Beacham. Bank expects to receive charter about March 2 and open for business very soon after that date.

S. C., Spartanburg.—Official: The Spartanburg Mortgage Co. has organized with \$25,000 capital; officers, Wm. A. Law, president, Philadelphia, Pa.; John A. Law, vice-president; H. B. Chapman, treasurer; directors, Wm. A. Law, John A. Law, J. T. Willard, R. H. Ferguson and M. E. Bowden, all of Spartanburg. Company will buy and sell high-grade first mortgage estate loans.

Tenn., Belfast.—Reported that Clarence Tate will be president, Knox Orr vice-president and John Weston Wakefield cashier of the new bank being organized with \$10,000 capital.

Tenn., Cookeville.—The First National Bank of Cookeville has been authorized to begin business; capital \$50,000; J. T. Anderson, president; J. R. Douglass and Gld. H. Lowe, vice-presidents, and Thomas Mason, cashier.

Tenn., Erwin.—Approved: The First National Bank of Erwin; capital \$25,000; directors, R. R. Brown, W. S. Tucker, J. F. Toney, R. M. Barry and F. H. Hannum.

Tenn., Nashville.—A letter to the Manufacturers' Record says that the Western & Atlantic Fire Insurance Co. of Nashville is a proposed corporation about ready for organization. It will be incorporated under the laws of Tennessee with an authorized capital of \$500,000 and \$500,000 surplus. John G. Cooke is mentioned as underwriter of the new company.

Tenn., Somerville.—The Farmers' State Bank of Somerville is reported chartered, with \$40,000 capital, by R. L. Day, Louis Lipsky, A. J. Wilson, W. H. Leach and H. P. Hobson.

Tenn., Woodland Mills.—The Farmers' Bank, capital \$15,000, is reported incorporated by G. W. Whipple, G. B. Burnes, J. W. Alexander, N. W. Whipple, J. E. Cox.

Tex., Alvarado.—The Alvarado State Bank of Alvarado is reported incorporated with \$25,000 capital by George R. Hallman, W. H. Norman and W. C. Senter.

Tex., Amarillo.—Fort Worth capitalists are reported interested with local men in the plan to organize a new national bank.

Tex., Blossom.—The First State Bank of Blossom, capital \$22,000, is reported organized with F. M. Lenoir, president; L. E. Kelton, vice-president; J. W. Ables, cashier; T. E. Lenoir, assistant cashier; R. F. Scott, J. S. Marshall, L. T. Reasoner, J. M. Isham, J. G. Barnett, directors.

Tex., Loving.—W. A. Shown, president of the Jacksboro National Bank of Jacksboro, Tex., confirms the report that a new State bank is to be organized at Loving with \$10,000 capital.

Tex., Mt. Pleasant.—A building and loan association is reported organized with directors thus: C. O. Lide, president; T. W. Vaughan, vice-president; M. L. Cotter, W. D. Sanders, H. A. Wilson and J. M. Burford. E. S. Lillenstern is secretary and treasurer.

Tex., Garwood.—The Garwood State Bank of Garwood is reported to have begun business.

Tex., Lewisville.—The Lewisville State Bank, capital \$2000, is reported to have begun business with J. W. Degar, president; F. C. Davis, first vice-president; Dr. D. F. Kirkpatrick, second vice-president; Alvin III, cashier.

Tex., Lufkin.—The Guaranty State Bank of Lufkin, capital \$25,000, has been chartered; incorporators and directors, D. A. Singleton, president; R. B. Bledsoe, first vice-president; P. R. Denman, second vice-president, and W. R. McMullin, cashier; J. M. Singleton, W. A. Abney, S. J. Cowart, L. O. Warner, M. D. Wright.

Tex., Megargel.—Reported chartered: First State Bank of Megargel; capital \$10,000; incorporators, R. L. Edwards, C. E. McCutchen, T. T. Meade and others.

Tex., Rochele.—The Rochele National Bank has been approved; capital \$25,000; organizers, Richard Sellman, J. T. Price, W. H. Cattle, J. B. Lockhart and E. E. Wiloughby.

Tex., Silver Valley.—Official: The First Guaranty State Bank chartered; capital \$10,000; R. P. Christian, president; J. R. Belton, cashier, and Lewis S. Swope, vice-president; business is to begin before March 1.

Tex., Victoria.—Official: The Levi Bank & Trust Co., successors to A. Levi & Co., bankers, has been chartered and incorporated; business is to begin March 1 with J. K. Hexter president, and Gus Radetske active vice-president and cashier; incorporators, G. A. Levi, C. G. Levi, J. K. Hexter, Gus Radetske, T. D. Wood, Thomas O'Connor, Jr., V. B. Proctor and J. V. Vandenberg.

Va., Lynchburg.—Official: The Virginia Securities Corporation chartered; minimum capital \$500, all paid in; maximum \$25,000; business is to begin immediately, with M. K. Duerson president and treasurer, and Walker Pettyjohn secretary, both at Lynchburg, Va.; directors, D. A. Payne and G. E. Vaughan of Lynchburg, and B. Estes Vaughan of Lexington, Va.; company will buy and sell high-class securities, stocks, bonds, etc.

Va., Manchester.—The Manchester National Bank has been authorized to begin business; capital \$100,000; W. L. Walters of Richmond, president; A. A. Adkins, vice-president, and D. C. Ballard of Roanoke Rapids, N. C., cashier. This is said to be a conversion of the Bank of Manchester.

Va., Reedville.—The Tidewater Bank of Virginia, capital \$15,000 to \$50,000, is reported chartered: J. A. Palmer, Jr., president; E. W. Edwards, vice-president; J. C. Jett, cashier; L. B. Rice, secretary.

Va., Troutville.—Official: The People's Exchange Bank incorporated; capital \$25,000; T. H. Potter, Haymarket, Va., president;

F. W. Bishop vice-president, and G. W. Layman cashier and secretary, Troutville, Va.; business is to begin in March.

W. Va., Bluefield.—The Bluefield Realty & Investment Co. of Bluefield is reported chartered with \$25,000 capital. Incorporators: H. H. Hale and Emily Hale, of Bluefield; J. J. Hale of Bluff City, Va.; J. Ed. Hamner of Narrows, Va., and Randolph Schwank of Glamorgan, Va.

W. Va., Peterstown.—Official: The First National Bank of Peterstown chartered; capital \$25,000. Business is to begin about April 1 with J. E. Hansburger, president, and W. H. Ballard, vice-president, Peterstown, W. Va.; O. P. Vims, cashier, Hinton, W. Va.; directors, S. Y. Symms, W. H. Ballard, E. J. Perry, R. F. Fishman, all of Peterstown, and J. H. Jordan, Hinton, W. Va.

W. Va., Wellsburg.—The Municipal Mutual Insurance Co. of West Virginia is reported incorporated by J. S. Liggett, W. W. Beall, F. A. Chapman, W. K. Cummings, F. E. Smith and others of Wellsburg.

NEW SECURITIES.

Ala., Birmingham.—Reported that a bill is to be introduced in the City Council providing for an election to vote on \$400,000 of bonds to liquidate indebtedness. C. S. Peterson is City Auditor.

Ala., Decatur.—Steps are reported being taken to issue bonds for city hall building. W. W. Callahan is city attorney.

Ala., Opelika.—Reported that on March 28 an election is to be held to vote on \$85,000 of 5 per cent. 30-year water and light bonds.

Ala., Sylacauga.—Bonds for waterworks and electric-light system are reported voted.

Ala., Talladega.—Reported that the City Council has accepted the proposition of the First National Bank of Cleveland, O., to take \$50,000 of 5 per cent. 20-year city bonds.

Ark., Lonsdale.—Reports state that \$30,000 of public-improvement bonds are to be issued.

Ark., Newport.—Bids will be received by C. G. Henry, district secretary, until 2 P. M. March 1 for \$38,000 of 5 per cent. 20-year bonds of sewer-improvement district No. 1; denomination, \$1000.

Ark., Woodson.—Reported that Chalklee & Sons of London, England, will purchase \$50,000 of 6 per cent. 15-25 year bonds of Woodson levee district.

Fla., Green Cove Springs.—Bids will be received until 1 P. M. March 22 by the board of trustees, J. B. Long, chairman, for \$45,000 of 6 per cent. 30-year water, light and street-improvement bonds; denomination, \$1000; dated January 1, 1910; maturity, January 1, 1940.

Fla., Kissimmee.—March 9, it is reported, an election is to be held to vote on \$43,000 of 6 per cent. 50-year water and sewer bonds.

Fla., Punta Gorda.—Official: April 10 bids will be opened for \$11,500 of 6 per cent. electric-light and public-wharf bonds; denomination, \$500; dated January 25, 1910; maturity, October 25, 1929. Bonds were voted April 13, 1906. Address Punta Gorda Bank Trustees: P. W. McAdow, F. M. Cooper and M. V. Williams.

Fla., West Palm Beach.—All bids received February 10 for \$200,000 of 4½ per cent. 30-year Palm Beach County road bonds were rejected; the securities are to be readvertised. F. E. Fenno is Clerk. Another report gives March 18 as date for receiving new bids.

Ga., Atlanta.—Voted: \$3,000,000 of 30-year bonds, as follows: Sewerage, \$1,350,000; water-works, \$900,000; schools, \$600,000; hospitals, \$100,000, and crematories, \$50,000. Robert F. Maddox, Mayor. Harvey Johnson, secretary, confirms the above and says bonds will bear 4½ per cent. interest; some to be of the serial character and others to run straight 30 years; it is not expected that bonds will be ready for market before May or June.

Ga., Edison.—Bids will be received until 10 A. M. March 4 by C. J. Saunders, City Clerk, for \$17,000 of water-works, \$8000 of school and \$800 of electric-light bonds. C. J. Jenkins is Mayor and C. Z. Saunders, clerk.

Ga., Dalton.—Reported that an election will be called within a few months to vote on bonds for light plant, water-works, school and street improvement bonds.

Ga., Fayette.—Reported that a petition is being circulated requesting that the Mayor call an election to vote on \$300,000 of bridge bonds.

Ga., Greenville.—Official: A petition is being circulated and signed by the freeholders of the city requesting the Mayor to call an election to vote on the following 30-year bonds: \$60,000 for payment of past indebtedness; \$200,000 for improvement of streets, sidewalks and bridge; \$40,000 for extending sewerage; interest not to

writes that \$12,000 of 6 per cent. 3-7-10 year street paving bonds were purchased January 29 by Daniel Trap; denomination \$500.

Ky., Winchester.—An official letter confirms the report that bids will be received until 2 P. M. February 21 by J. A. Hughes, Mayor, for \$65,000 of sewerage and \$40,000 of city hall 4½ per cent. 20-year bonds; denomination, \$1000.

La., Jackson.—Reported that from \$250,000 to \$300,000 of bonds are under consideration.

Md., Cumberland.—Reported that a bill is to be introduced in the Legislature providing for \$500,000 of water-supply bonds.

Md., Easton.—Reported that \$35,000 of 35-year street-improvement bonds are to be issued.

Md., Frostburg.—An ordinance has been introduced in the House of Delegates, it is reported, providing for \$50,000 of street-improvement bonds, election to be held April 5.

Miss., Clarksdale.—The Planters' Bank of Clarksdale, Miss., is reported to have purchased \$100,000 of Yazoo-Mississippi Levee Board debentures.

Mo., Trenton.—An election is to be held in April, it is reported, to vote bonds for electric light plant.

Mo., Independence.—Bids will be received by W. A. Symington, City Treasurer, until March 11 for \$40,000 of 4 per cent. 5-20-year city hall bonds.

Mo., Mexico.—Reported that Audrain county is considering the question of issuing \$55,000 of jail and infirmary bonds.

Mo., Warrensburg.—R. J. Grover, Deputy Secretary, writes that at 1:30 P. M. February 21 bids were called for \$190,000 of 6 per cent. bonds of Blackwater drainage district No. 1; denomination, \$1000.

N. C., Albemarle.—J. E. Ewing, city clerk, writes that of the \$67,000 of 5 per cent. street improvement, light, sewerage and water bonds voted July 27, 1909, the J. B. McCrary Company of Atlanta, Ga., has purchased \$30,000 worth. Balance will be sold later.

N. C., Ashboro.—Official: Authorized—\$50,000 of water-works and sewerage-plant 5 per cent. 30-year bonds; date of opening bids not yet determined. Hal M. Worth is Mayor.

N. C., Goldsboro.—Official: \$150,000 of 4½ per cent. 40-year street and sidewalk improvement bonds have been voted; denomination, \$1000. Bonds can be bought privately. Address F. K. Borden, chairman Finance Court. John R. Higgins is Mayor.

N. C., Jonesboro.—Bids will be received until noon March 14 for \$15,000 of 5 per cent. 40-year Jonesboro township road bonds. Address T. M. Cross, clerk Board Commissioners, Sanford, N. C.

N. C., Mount Airy.—Voted: \$65,000 of bonds in aid of Statesville Air Line Railroad.

N. C., Whiteville.—Reported voted: \$25,000 of street bonds.

Okla., Clinton.—Reported voted: \$50,000 of city hall and school bonds.

Okla., Custer City.—Official: Voted: \$25,000 of 6 per cent. 20-year building bonds; the issue has been sold to the Greer Bond & Investment Co. of Mangum, Okla. Chas. W. Gossum is District Clerk.

Okla., Foss.—Bids will be received at any time, it is stated, for \$22,000 of water-works and \$7000 of electric-light 6 per cent. 25-year bonds. Address W. J. O'Hara, Town Clerk.

Okla., Gotebo.—H. M. Brooks of Jackson, Mich., is reported to have purchased \$28,000 of 25-year water-works bonds.

Okla., Nashville.—Reported voted: \$12,000 of school-building bonds.

Okla., Tulsa.—March 7 an election is to be held. It is stated, to vote on \$100,000 of city hall, \$100,000 of water department, \$25,000 of sewer, \$20,000 of street and \$25,000 of incinerating plant bonds.

Okla., Wagner.—Reported that an election is to be held to vote on \$10,000 of sewerage bonds.

S. C., Columbia.—An official letter says that State has made no provision for the issue of new bonds and that there is a strong sentiment against increasing the bonded indebtedness.

S. C., Greenville.—Reported that a petition is being circulated requesting that the Mayor call an election to vote on \$300,000 of bridge bonds.

S. C., Greenville.—Official: A petition is being circulated and signed by the freeholders of the city requesting the Mayor to call an election to vote on the following 30-year bonds: \$60,000 for payment of past indebtedness; \$200,000 for improvement of streets, sidewalks and bridge; \$40,000 for extending sewerage; interest not to

MANUFACTURERS' RECORD.

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exceed 5 per cent; A. E. Sussex is City Clerk and Treasurer; a majority must sign the petition before election can be held.

Tenn., Franklin.—Reported that all bids received for the \$35,000 of water-works and sewer bonds were rejected.

Tenn., Obion.—The election to vote on \$30,000 of electric light and water plant, \$15,000 of street improvement and \$10,000 of municipal building bonds will, it is stated, be held March 19.

Tenn., Rutledge.—The Knoxville Banking & Trust Co. is reported to have purchased \$100,000 of 5 per cent, 30-year Grainger county road bonds at a premium of \$300.

Tenn., Trenton.—March 26 an election is to be held to vote on \$12,000 of light-plant bonds.

Tex., Abbott.—An election is to be held February 26, it is reported, to vote on \$12,500 of 5 per cent, school-building bonds.

Tex., Austin.—The Attorney-General has approved the following securities: \$60,000 of 4 per cent, 10-40-year Dallas county viaduct and bridge bonds; \$5000 of 5 per cent, 20-40-year bonds of San Antonio improvement district No. 2; \$50,000 of Midland water-works 5 per cent, 10-40-year bonds; \$5000 of Bay City independent school district 5 per cent, 10-40 year bonds; \$1920 of 5 per cent, 20-40-year Longview water-works bonds; \$2000 of 5 per cent, 20-40-year Hemphill county common school district bonds.

Tex., Amarillo.—Reported that \$100,000 of high-school and improvement bonds have been purchased at \$2600 premium by the Detroit United Bank and Bumpus, Stevens & Co. of Detroit.

Tex., Beaumont.—The question of issuing \$75,000 of additional road bonds is reported under consideration.

Tex., Bovina.—Reported that the Commissioners' Court of Parmer County will issue \$12,000 of Bovina school district bonds.

Tex., Dallas.—Bids will be received until 10 A. M. February 28 for the following 4 per cent, 10-40-year Dallas county bonds: \$100,000 of road and bridge bonds, series 2; \$175,000 of viaduct and bridge, series 1; \$600,000 of viaduct and bridge bonds, series 2. John L. Young is County Judge.

Tex., Dallas—Dallas County is reported to have sold \$30,000 of road bonds, as follows: G. W. Owens, Alex. Sanger and the John Deere Plow Co., each \$10,000.

Tex., El Paso.—Bids will be received until 5 P. M. March 10 for \$110,000 of 5 per cent, 20-40-year street-improvement bonds. Address Percy McGhee, City Clerk.

Tex., Fort Worth.—Official: \$100,000 of 4½ per cent, 20-40-year high-school bonds were voted January 25. Address Commissioner Giloin.

Tex., Houston.—Reported that \$16,000 of Sikes school district, Harris county, bonds

have been purchased at \$225 premium by a Chicago firm. L. L. Pugh is County School Superintendent.

Tex., Lueders.—Bonds for high school are reported sold.

Tex., Milford.—Reported voted: \$20,000 of school-building bonds.

Tex., Pasadena.—Reported that \$10,000 of independent school district bonds have been voted. L. L. Pugh is Harris County School Superintendent.

Tex., Snyder.—Reported that an election will probably be called to vote bonds for water-works system.

Tex., Temple.—Reported voted: \$100,000 of 5 per cent, 20-40-year school bonds.

Tex., Tom Bean.—Voted: \$5000 of school district bonds.

Tex., Vernon.—Reported that on April 5 an election will be held to vote on \$15,000 of water-works-extension bonds.

Tex., Waco.—Reported voted: \$175,000 of 4 per cent, 30-year school and park bonds.

Tex., Yorktown.—Arrangements are reported being made to hold an election to vote on school-building bonds.

Va., Appalachia.—Reported voted: \$14,000 of street, sewer and bridge and \$26,000 of water-works bonds.

Va., Fredericksburg.—Official: The Legislature has authorized city to issue \$20,000 of bonds to secure State normal and industrial school for women. Address H. B. Lane, Fredericksburg, Va.

W. Va., Clarksburg.—Arrangements are reported being made to hold an election to vote on \$300,000 of high-school and additional ward-school building bonds.

FINANCIAL NOTES.

The People's National Bank of Lynchburg, Va., is reported to have increased its capital to \$300,000.

The Humble State Bank of Humble, Tex., it is reported, will increase its capital from \$10,000 to \$15,000.

The Conservative Life Insurance Co. of Wheeling, W. Va., will, it is reported, increase its capital from \$15,000 to \$50,000.

The Morristown Bank & Trust Co. of Morristown, Tenn., it is reported, proposes to amend its charter and increase its capital from \$25,000 to \$50,000.

The Cordelle National Bank of Cordele, Ga., has decided to increase its capital to \$100,000 about April 1 by offering \$50,000 of new stock. The present capital is \$50,000, and surplus and profits \$42,315. B. P. O'Neal is president; E. P. McBurney, vice-president; B. S. Dunlap, cashier, and C. L. West, assistant cashier.

NORTHERN CENTRAL RAILWAY COMPANY. GENERAL OFFICE.

Baltimore, Md., February 16, 1910.

The Board of Directors submit herewith to the Stockholders of the Northern Central Railway Co. a synopsis of their Annual Report for the year 1909:

The gross earnings of all lines directly operated were..... \$12,264,769 61
Operating expenses, including taxes..... 9,938,336 36

Net earnings from operation..... \$2,326,433 25
Deduct rentals paid roads operated on basis of net earnings..... 73,519 29

Net operating earnings, the Northern Central Railway Co..... \$2,252,613 96
To which add:
Interest on investments..... \$939,506 78
Interest, general account, rents and other items..... 435,170 37

Gross Income..... \$3,627,291 11
Deduct:
Fixed rentals of leased roads..... \$308,670 72
Interest on bonded debt..... 347,315 00
Hire of equipment, interest on mortgages, ground rents and Car Trusts and other items..... 368,308 54

Net Income..... \$2,602,596 85
From this amount the following amounts have been deducted:
Payment account principal of Car Trusts..... \$59,381 62
Dividend, 8 per cent..... 1,547,400 00
Amount transferred to Extraordinary Expenditure Fund..... 800,000 00

Balance transferred to credit of Profit and Loss..... \$196,215 23
Amount to credit of Profit and Loss 31st December, 1909..... 2,826,572 29
Add sundry credits during the year..... 43,801 66

Amount to credit of Profit and Loss 31st December, 1909..... \$3,066,589 18

GENERAL BALANCE SHEET (CONDENSED), 31ST DECEMBER, 1909.

Assets.

Cost of railway, real estate and equipment..... \$20,974,372 16
Securities owned..... 7,846,984 05

Current Assets:

Cash in hands of treasurer and on special deposit..... \$2,730,223 75

Due from agents..... 389,582 77

Bills receivable, etc..... 42,000 00

Due from individuals and companies and Insurance Fund..... 1,248,056 22

Materials..... 534,589 15

Additions and betterments..... 4,944,451 89

Depreciation fund for coal lands of the Shamokin Valley & Pottsville Railroad Co..... 50,196 58

Depreciation fund for coal lands of the Shamokin Valley & Pottsville Railroad Co..... 538,000 00

	<i>Liabilities.</i>
Capital stock.....	\$19,342,550 00
Funded debt (including mortgages and ground rents).....	6,946,827 02
Car Trust principal charged out in advance and taxes accrued.....	592,428 42
Extraordinary Expenditure Fund.....	1,098,544 23
Current Liabilities:	
Vouchers and payroll checks.....	\$1,239,860 51
Interest accrued on funded debt.....	123,891 25
Due other companies.....	312,501 97
Interest matured on bonds and dividends uncollected.....	4,474 00
Insurance Fund.....	27,982 99
Dividends payable 15th January, 1910.....	773,700 00
Miscellaneous.....	294,984 73
Depreciation fund for coal lands of the Shamokin Valley & Pottsville Railroad Co. Profit and Loss.....	2,777,398 45 538,567 28 3,096,335 18
	\$34,363,004 68

TRAFFIC.

The number of tons of freight moved was 21,111,851, an increase of 885,563, or 4.38 per cent. The number of passengers carried was 4,816,211, an increase of 317,953, or 7.07 per cent.

GENERAL REMARKS.

Your Gross Earnings increased 8.9 per cent, over 1908 owing to the improved business conditions which succeeded the industrial depression mentioned in the last Annual Report, but your Maintenance and Operating Expenses also show an increase due to expenditures made necessary by the enforced economies of the preceding year.

Your Net Income, \$2,602,096.85, after payment of all obligatory charges, shows an increase of over 10.3 per cent. Out of this there were paid the regular semi-annual dividends, aggregating 8 per cent., and after deducting Car Trust Principal, \$59,381.62, and transferring \$800,000 to the Extraordinary Expenditure Fund, the balance of \$196,215.23 was transferred to the credit of your Profit and Loss Account.

The total Construction, Equipment and Real Estate expenditures for the year, aggregating \$609,897.01, were charged against your Extraordinary Expenditure Fund, and consisted mainly of the following items:

Right of Way:	
Wharf property at Canton.....	\$330,783 26
Construction:	
Northumberland Classification Yard.....	230,357 16
Equipment:	
On account of rebuilding 400 Pool freight cars, etc.....	48,756 59

It will be noted that the chief expenditures were for wharf property at Canton, purchased from the International Mercantile Marine Co., and which is necessary in connection with the development of your business at that point, and for your portion of the construction of the new Northumberland classification yard. This yard is designed to facilitate the movement of traffic passing over your line and that of the Erie Division of the Pennsylvania Railroad, and also to relieve the Harrisburg and Sunbury yards, it being considered inadvisable to enlarge the latter on account of grade crossing complications, and for the reason that it cannot be economically operated by reason of its location within the city limits. The cost of constructing the yard will be divided between Pennsylvania Railroad and your Company on the basis of the use to be made thereof.

The construction of the new Union Station in Baltimore and the necessary readjustment and increase of the tracks and other facilities in connection therewith are now actively under way, in accordance with the ordinance of the Mayor and Councils of that city and plans approved by your Board.

The bridges which carry Maryland avenue and Charles street over your tracks near this point will also be reconstructed and otherwise improved.

In order to obviate as much as possible the storing of locomotives and the maintenance of large repair shops inside of the limits of the city of Baltimore, both of which are now provided for at Mt. Vernon yards, and to extend the freight facilities at the latter point, it has been arranged to have the repair work done at other points, and to build a new roundhouse, engine-house and coaling facilities at Orangeville, Md., just outside of the city limits, one-half of the expense of the latter to be borne by the Philadelphia, Baltimore & Washington Railroad Co. The Mt. Vernon yards will then be enlarged and used for the classification of north and south bound freight traffic.

During the year 270 box cars leased under Car Trust arrangements were finally paid for and became your absolute property and were added to your owned equipment.

The First Mortgage Bonds of the Elmira & Williamsport Railroad Co., which had previously been extended to January 1, 1910, at the rate of 6 per cent, per annum, being about to fall due, your Company, as lessee of the Elmira & Williamsport Railroad, and acting for and on its behalf, and in pursuance of authority contained in the lease, arranged for the further extension of the same until January 1, 1910, with interest thereon at the rate of 4 per cent, per annum, your Company to pay the tax thereon imposed by the State of Pennsylvania.

There were 6265 tons of new steel rails and 226,800 crossties used in repairs and renewals.

The Insurance Fund amounted to \$1,167,319.26 on December 31, 1909, a gain for the year of \$65,863.28.

There were carried on the rolls of the Pension Department at the end of the year 186 employees, and the pensions paid during the year amounted to \$42,888.55.

Your Board regrets to announce the loss by death of the Assistant Treasurer, Mr. Franklin P. Whitcraft, on December 25, 1909. Mr. Whitcraft had been in your service, occupying various important positions, for 35 years, was a devoted and loyal officer, and had won the respect of the various officers of the Company and of all those who had business relations with him. Mr. Whitcraft was succeeded by Mr. Herbert D. Thompson, and Mr. T. V. Warthen was appointed Cashier.

On March 26, 1909, Mr. John P. Green, for many years a Director and Executive Officer of your Company, resigned as First Vice-President, on account of the near approach of the date of his retirement, and the following changes were made by reason thereof: Mr. Chas. E. Pugh was elected First Vice-President; Mr. Samuel Rea, Second Vice-President; Mr. J. B. Thayer, Third Vice-President; Mr. Henry Tatnall, Fourth Vice-President, and Mr. W. W. Atterbury, Fifth Vice-President.

Mr. Green was succeeded as a Director by Mr. W. W. Atterbury.

Under the provisions of your Pension Department, by which officers and employees attaining the age of 70 years are placed upon its rolls, Captain Green formally retired on August 1, 1909. Captain Green has spent a business lifetime in a most conscientious and untiring devotion to your service, the value of which has been inestimable in advancing the interests of the Company. The Board congratulates him on having the opportunity at last to throw off some of the burdens of official life and the leisure in which to observe the growth of the properties in which he has been so long and deeply interested.

The following additional changes in the organization were also made on March 26, 1909: Mr. James F. Fahnestock was elected Treasurer; Mr. J. B. Hutchinson was appointed Assistant to First Vice-President; Mr. A. J. County, Assistant to Second Vice-President; Mr. C. M. Bunting, Assistant Comptroller; Mr. W. H. Myers, General Manager; Mr. J. G. Rodgers, Assistant to the General Manager, and Mr. H. M. Carson, General Superintendent.

On February 17, 1909, Mr. J. M. Gross was appointed Division Freight Agent, and on December 10, 1909, Mr. Geo. H. Grone was appointed Assistant Purchasing Agent, and Mr. W. F. McPhail, Assistant General Baggage Agent.

By order of the Board,

JAMES McCREA, President.

ALPHABETICAL INDEX OF ADVERTISERS.

Ads. marked * appear every other week. Ads. marked † appear in first issue of the month. Ads. marked ‡ not in this issue.

FOR "CLASSIFIED OPPORTUNITIES" See Pages 82-83

Trenton Engine Co.
Tritmont Manufacturing Co.
Triumph Electric Co.
Triumph Ice Machine Co., The
Trump Co., The
Trussed Concrete Steel Co.
Tucker & Laxton
Tudor Boiler Mfg. Co.
Tyson, John A.

Underwood Typewriter Co.
Union Iron Works Co., The
Union Mining Co.
Union Steam Pump Co.
Union Sulphur Co.
United States Cast Iron Pipe & Foundry Co.
United States Equipment Co.
United States Gypsum Co.
United States Rail Co.
U. S. Wood Preserving Co.
Universal Portland Cement Co.
Universal Road Machinery Co.

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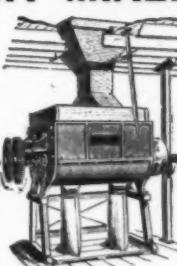
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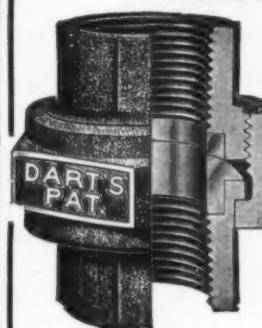
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WANTED—General agency for Texas for novelties, manufacturers' specialties and patented articles, meritorious and ready sale. Address Texas Novelty Co., Houston, Texas.

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YOUNG MAN with some capital, now bookkeeper for large incorporated foundry and machine shop manufacturing machinery, etc., desires to make change; good business experience; well up on cost accounting; competent to do estimating, purchasing, corresponding and general office work; can furnish A1 references. Address No. 584, care Manufacturers' Record.

A SPECIALTY SALESMAN with six years' experience would consider changing line; manufacturers of high-grade fixtures, metal novelties or other specialties who desire service of A1 salesman on com. basis are requested to communicate with No. 582, care Manufacturers' Record.

GRADUATE civil engineer, 7 years' experience, location, construction, maintenance of railroads; 2 years railroad shops; 2 years train and engine service; last three years general manager and chief engineer short line railroad; salary, \$3000; open for position April 1 along above lines; title immaterial; salary considered depending on conditions. Address No. 579, care Manufacturers' Record.

A TRAVELING SALESMAN, employed seven months of year by large Southern house, wants a line for other five months, commencing March 1; must be a line interesting to best trade; reference, present employer. Address No. 580, care Manufacturers' Record.

SOUTHERN COTTON-MILL MAN, familiar with both the business and practical ends of the business, is open for position as treasurer and manager, or assistant to treasurer and manager, of good Southern mill; 12 years' good experience; in present position five years as assistant to practical mill man managing one of the most successful mills in the South; highest references; correspondence solicited. Address No. 583, care Manufacturers' Record.

ADVERTISER desirous of locating South wants position as manager, auditor, accountant, or anything where merit, energy and close application will insure a future; age 40; many years' practical commercial experience; highest references; reasonable salary. Address No. 574, care Manufacturers' Record.

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LOCATION FOR TILE AND SEWER-PIPE PLANT.—Good town on Seaboard Air Line Railway offers a material suitable for the manufacture of tile and sewer pipe; material, coal site in immediate proximity to each other, with good railroad facilities. Address J. W. White, General Industrial Agent, Seaboard Air Line Railway, Norfolk, Va.

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LOCATION FOR COTTONSEED-OIL MILL.—The citizens of a thriving little town in Georgia, on the Seaboard Air Line Railway, are anxious for a cottonseed-oil mill, and will subscribe \$15,000 to \$20,000 for the establishment of such an industry if an experienced oil-mill man will invest a like amount; location in center of cotton district, and abundant seed supply is available. Full information on request. J. W. White, General Industrial Agent, Seaboard Air Line Railway, Norfolk, Va.

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